



THE SECRETARY OF TRANSPORTATION
WASHINGTON DC 20590

December 1, 2011

The Honorable John L. Mica
Chairman, Committee on Transportation
and Infrastructure
U.S. House of Representatives
Washington, DC 20515

Dear Mr. Chairman:

As required by section 202 of the Airline Safety and Federal Aviation Administration Extension Act of 2010, Pub. L. No. 111-216, I am pleased to provide you with the first annual report to Congress on the Secretary of Transportation's Responses to the National Transportation Safety Board's Air Carrier Safety Recommendations.

Similar letters have been sent to the Ranking Member of the House Committee on Transportation and Infrastructure, the Chairman and Ranking Member of the Senate Committee on Commerce, Science, and Transportation, and the Chairman of the National Transportation Safety Board.

Sincerely yours,

Ray LaHood

Enclosure



THE SECRETARY OF TRANSPORTATION

WASHINGTON DC 20590

December 1, 2011

The Honorable Nick J. Rahall II
Ranking Member, Committee on Transportation
and Infrastructure
U.S. House of Representatives
Washington, DC 20515

Dear Congressman Rahall:

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Sincerely yours,

Ray LaHood

Enclosure

A large, stylized handwritten signature in blue ink, which appears to be "Ray LaHood", is written over the typed name and extends across the lower right portion of the page.



THE SECRETARY OF TRANSPORTATION

WASHINGTON DC 20590

December 1, 2011

The Honorable John D. Rockefeller IV
Chairman, Committee on Commerce, Science,
and Transportation
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

As required by section 202 of the Airline Safety and Federal Aviation Administration Extension Act of 2010, Pub. L. No. 111-216, I am pleased to provide you with the first annual report to Congress on the Secretary of Transportation's Responses to the National Transportation Safety Board's Air Carrier Safety Recommendations.

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Ray LaHood

Enclosure



THE SECRETARY OF TRANSPORTATION

WASHINGTON DC 20590

December 1, 2011

The Honorable Kay Bailey Hutchison
Ranking Member, Committee on Commerce,
Science, and Transportation
United States Senate
Washington, DC 20510

Dear Senator Hutchison:

As required by section 202 of the Airline Safety and Federal Aviation Administration Extension Act of 2010, Pub. L. No. 111-216, I am pleased to provide you with the first annual report to Congress on the Secretary of Transportation's Responses to the National Transportation Safety Board's Air Carrier Safety Recommendations.

Similar letters have been sent to the Chairman and Ranking Member of the House Committee on Transportation and Infrastructure, the Chairman of the Senate Committee on Commerce, Science, and Transportation, and the Chairman of the National Transportation Safety Board.

Sincerely yours,

Ray LaHood

Enclosure



U.S. Department
of Transportation
**Federal Aviation
Administration**

Annual Report on Air Carrier Safety Recommendations

Response to Public Law 111-216, Section 202

Calendar Year 2010

This is the Department of Transportation's (DOT) first annual report to Congress on the status of Title 14 Code of Federal Regulations Part 121 National Transportation Safety Board (NTSB – also known as the “Board”) Safety Recommendations. This report describes the efforts of the Federal Aviation Administration (FAA), the DOT administration responsible for responding to these recommendations regarding air carrier operations conducted under part 121, as of September 30, 2011.

As a regulatory agency, the FAA is bound by the statutes, executive orders, and practices of the rulemaking process. The FAA strives to meet the intent of most every recommendation through this process and other avenues of voluntary compliance. The responses provided in this report are part of a larger correspondence effort to inform the Board and the American Public of the FAA's actions.

Substantial detail is provided in this first report, taking excerpts from the letters the FAA has exchanged with the Board. Future reports will clarify any additional actions the FAA – or the Board – have taken to address the issues identified in the recommendations.

Executive Summary

This report provides information required in Section 202 of the Airline Safety and Federal Aviation Administration Extension Act of 2010 (Public Law 111-216), titled, Secretary of Transportation Responses to Safety Recommendations. That section reads as follows:

SEC. 202. SECRETARY OF TRANSPORTATION RESPONSES TO SAFETY RECOMMENDATIONS.

(a) IN GENERAL.—The first sentence of section 1135(a) is amended by inserting “to the Board” after “shall give”.

(b) AIR CARRIER SAFETY RECOMMENDATIONS.—Section 1135 is amended—
(1) by redesignating subsection (d) as subsection (e); and
(2) by inserting after subsection (c) the following:

“(d) ANNUAL REPORT ON AIR CARRIER SAFETY RECOMMENDATIONS.—

“(1) IN GENERAL.—The Secretary shall submit to Congress and the Board, on an annual basis, a report on the recommendations made by the Board to the Secretary regarding air carrier operations conducted under part 121 of title 14, Code of Federal Regulations.

“(2) RECOMMENDATIONS TO BE COVERED.—The report shall cover—

“(A) any recommendation for which the Secretary has developed, or intends to develop, procedures to adopt the recommendation or part of the recommendation, but has yet to complete the procedures; and

“(B) any recommendation for which the Secretary, in the preceding year, has issued a response under subsection (a)(2) or (a)(3) refusing to carry out all or part of the procedures to adopt the recommendation.

“(3) CONTENTS.—

“(A) PLANS TO ADOPT RECOMMENDATIONS.—For each recommendation of the Board described in paragraph (2)(A), the report shall contain—

“(i) a description of the recommendation;

“(ii) a description of the procedures planned for adopting the recommendation or part of the recommendation;

“(iii) the proposed date for completing the procedures; and

“(iv) if the Secretary has not met a deadline contained in a proposed timeline developed in connection with the recommendation under subsection (b), an explanation for not meeting the deadline.

“(B) REFUSALS TO ADOPT RECOMMENDATIONS.—For each recommendation of the Board described in paragraph (2)(B), the report shall contain—

“(i) a description of the recommendation; and

“(ii) a description of the reasons for the refusal to carry out all or part of the procedures to adopt the recommendation.”.

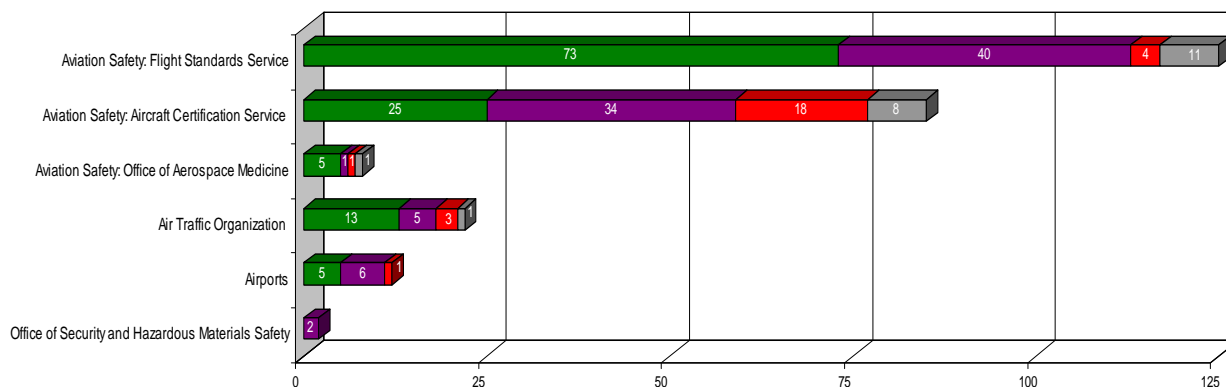
Overview of the Report: This DOT (FAA) report responds to the Board’s recommendations that were created in direct response to a part 121 operation and those that specifically seek to amend part 121. Of all part 121 recommendations, only those that are 1) currently open or 2) were closed-unacceptable in response to a FAA letter sent in Calendar Year 2010 are included in this report. The 257 recommendations that resulted from this filtering are categorized with an adoption status of either fully adopt, partially adopt, or not adopted. The fully adopt and partially adopt categories include recommendations that the FAA has adopted or plans to adopt. A fourth category, undetermined, was added to incorporate recommendations that have not been assigned to one of the other three adoption statuses.

This report is organized by the adoption status of each recommendation and then by the applicable FAA organization, which includes Aviation Safety (further separated into Flight Standards Service, Aircraft Certification Service, and the Office of Aerospace Medicine), Air Traffic Organization, Airports, and the Office of Security and Hazardous Materials Safety. These organizations are completely responsible for the applicable recommendations responsive to Public Law (P.L.) 111-216. The following sets of graphs summarize the status of the 257 part 121 recommendations discussed in this report.

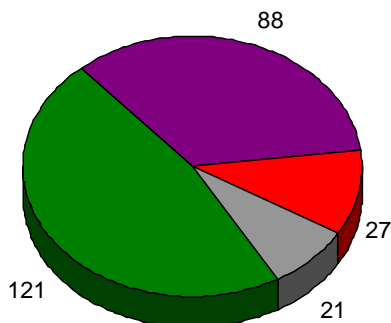
1) Adoption Status: The below graphs summarize the FAA’s position on whether to fully, partially, or not adopt a recommendation. For some recommendations, the FAA has not yet determined an adoption status.

■ Fully Adopt
 ■ Partially Adopt
 ■ Not Adopted
 ■ Undetermined

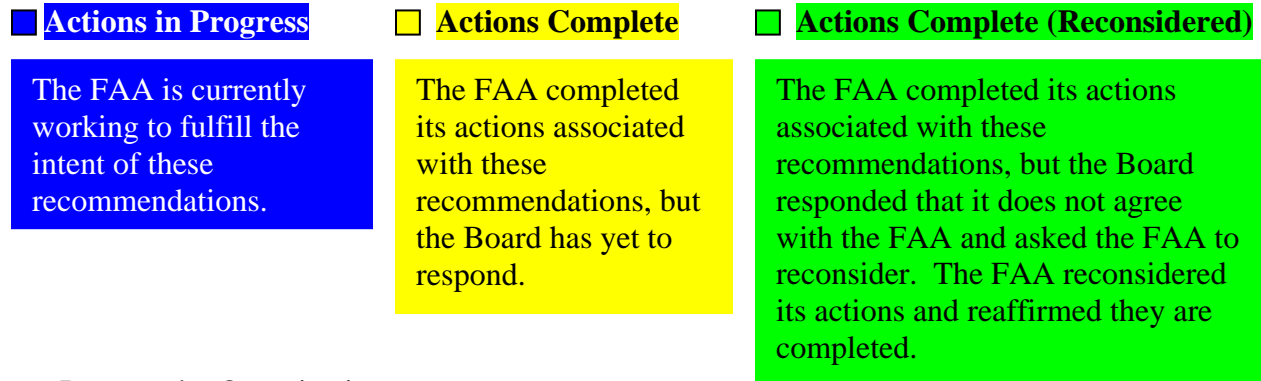
- Adoption Status by Organization



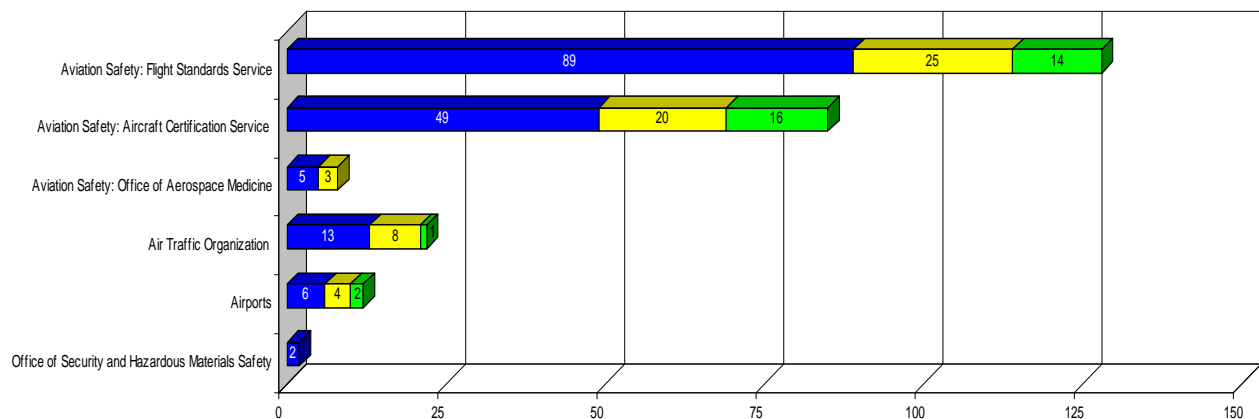
- Total = 257



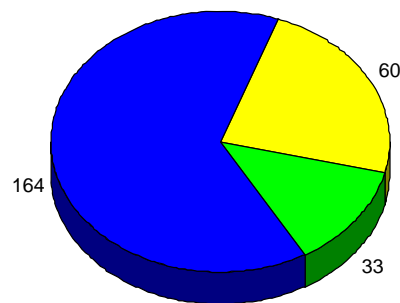
2) DOT Status: The below graphs summarize the progress of applicable recommendations.



- Progress by Organization



- Total = 257



Further discussion of these recommendations is presented in the following pages. A quick-reference index, listing each recommendation with the adoption status, DOT status, and FAA organization, is located at the end of this report. Additionally, a quick-reference index of all discussed regulatory and guidance documents is located at the end of this report.

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Acronyms and Abbreviations

DOT (FAA) Status:

AC✓	Actions Complete
AC*	Actions Complete (Reconsidered)
AIP	Actions in Progress

NTSB Status (A date by select recommendations is used to show that the NTSB Status was determined prior to the FAA's most recent action.):

CUA	Closed Unacceptable Action
OAA	Open Acceptable Action
OAAA	Open Acceptable Alternate Action
OUA	Open Unacceptable Action
OAR	Open Awaiting Response
ORR	Open Response Received

FAA Offices:

AAM	Office of Aerospace Medicine
AFS	Flight Standards Service
AIR	Aircraft Certification Service
ARP	Airports
ASH	Office of Security and Hazardous Materials Safety
ATO	Air Traffic Organization
AVS	Aviation Safety
CAMI	Civil Aerospace Medical Institute

Federal Offices:

NASA	National Aeronautics and Space Administration
NCAR	National Center for Atmospheric Research
USDA	United States Department of Agriculture

Private and Non-US Organizations:

AIA	Aerospace Industries Association
ALPA	Air Line Pilot's Association
AOPA	Aircraft Owners and Pilots Association
ATA	Air Transport Association of America
EASA	European Aviation Safety Agency
EUROCAE	European Organization for Civil Aviation Electronics
IATA	International Airport Transport Association
ICAO	International Civil Aviation Organization
ICATEE	International Committee for Aviation Training in Extended Envelopes
NATCA	National Air Traffic Controllers Association
RAA	Regional Airline Association
SAE	Society of Automotive Engineers

Other:

91K	14 Code of Federal Regulations Part 91 Subpart K
AC	Advisory Circular
A/C	Air Conditioning

ACAT	Air Carrier Assessment Tool
ACMTP	Air Carrier Maintenance Training Programs
AD	Airworthiness Directive
ADS-B	Automatic Dependent Surveillance – Broadcast
AFM	Airplane Flight Manual
AIM	Aeronautical Information Manual
ALS	Airport Lighting System
AME	Aviation Medical Examiner
AMM	Aircraft Maintenance Manual
APC	Aircraft-Pilot Coupling
AQP	Advanced Qualification Program
ARAC	Aviation Rulemaking Advisory Committee
ARC	Aviation Rulemaking Committee
ARFF	Aircraft Rescue and Firefighting
ARTCC	Air Route Traffic Control Center
AS	Aerospace Standard
ASA	Aircraft Surveillance Applications
ASAP	Aviation Safety Action Program
ASDE-X	Airport Surface Detection Equipment, Model X
ASI	Aviation Safety Inspector
ASR	Airport Surveillance Radar
ASTARS	AFS Staffing Tool and Reporting System
ATC	Air Traffic Control
ATCSCC	Air Traffic Control System Command Center
ATCT	Air Traffic Control Tower
ATOS	Air Transportation Oversight System
ATP	Airline Transport Pilot
ATSAP	Air Traffic Safety Action Program
ATSV	Air Turbine Starter Valve
BPG	Best Practices Guide
CAMP	Continuous Airworthiness Maintenance Program
CARES	Child Aviation Restraint System
CARTS	Common Automated Radar Terminal System
CASS	Continued Analysis and Surveillance System
CAST	Commercial Aviation Safety Team
CBT	Computer Based Training
CFIT	Controlled Flight Into Terrain
CFR	Code of Federal Regulations
CMM	Component Maintenance Manual
CNS	Communication, Navigational, and Surveillance
COS	Continued Operational Safety
CRM	Crew Resource Management
CRS	Child Restraint System
CSRTG	Cabin Safety Research Technical Group
CVD	Color Vision Deficient
CVR	Cockpit Voice Recorder
DFDR	Digital Flight Data Recorder

EDR	Eddy Dissipation Rate
EMAS	Engineered Materials Arresting System
FCOM	Flight Crew Operations Manual
FDR	Flight Data Recorder
FDRS	Flight Data Recorder System
FMS	Flight Management System
FOIA	Freedom of Information Act
FOQA	Flight Operational Quality Assurance
FRM	Fatigue Risk Management
FRMP	Fatigue Risk Management Plan
FRMS	Fatigue Risk Management System
FSIMS	Flight Standards Information Management System (Order 8900.1)
FSIRP	Flight Standards Inspector Resource Program
FSTD	Flight Simulator Training Device
FY	Fiscal Year
GTG	Graphic Turbulence Guidance
HBAT	Handbook Bulletin for Air Transportation
HBAW	Handbook Bulletin for Airworthiness
HBGA	Handbook Bulletin for General Aviation
HF	Human Factors
ICA	Instructions for Continued Airworthiness
ICTS	Ice-contaminated Tailplane Stall
IFR	Instrument Flight Rules
InFO	Information for Operators
IPC	Instrument Proficiency Check
ITWS	Integrated Terminal Weather System
KSI	Key Safety Information
LCGS	Low Cost Ground Surveillance
LED	Light Emitting Diode
LiDAR	Light Detection and Ranging
LLWAS	Low-Level Windshear Alert System
LOE	Line Operational Evaluations
LOSA	Line Operations Safety Audit
LPT	Low Pressure Turbine
MIA	Minimum Instrument Altitude
MLC	Multiple Landing Clearance
MPS	Minimum Performance Standards
MRM	Maintenance Resource Management
MSAD	Monitor Safety Analyze Data
NAS	National Airspace System
NEXRAD	Next Generation Radar
NextGen	Next Generation Air Transportation System
NIDS	National Airspace System Information Display System
NPRM	Notice of Proposed Rulemaking
NWSD	National Wildlife Strike Database
OEM	Original Equipment Manufacturer
OJT	On-the-Job Training

OPSPECs	Operations Specifications
OSA	Obstructive Sleep Apnea
PED	Personal Electronic Device
P.L. 111-216	Public Law 111-216, The Airline Safety and Federal Aviation Extension Act of 2010
PMI	Principle Maintenance Inspector
POI	Principal Operations Inspector
PRD	Pilot Records Database
PRIA	Pilot Records Improvement Act of 1996
PTRS	Program Tracking and Reporting Subsystem
R&D	Research and Development
RFM	Rotorcraft Flight Manual
RII	Required Inspection Item
RSA	Runway Safety Area
SA	Service Alert
SAFO	Safety Alert for Operators
SAIB	Special Airworthiness Information Bulletin
SAS	Safety Assurance System
SB	Service Bulletin
SDR	Service Difficulty Report
SE	Safety Enhancement
SEAR	System Engineering Analysis Report
SIMC	Special Issuance Medical Certificate
SLG	Signal Light Gun
SME	Subject Matter Expert
SMS	Safety Management System
SNPRM	Supplemental Notice of Proposed Rulemaking
SOP	Standard Operating Procedures
SPAW	Stick Pusher and Adverse Weather
SPI	Safety Priority Index
SR	NTSB Safety Recommendation
STC	Supplemental Type Certificate
TALPA	Takeoff and Landing Performance
TCAS	Traffic Collision Avoidance System
TOWS	Takeoff Warning System
TSO	Technical Standard Order
URTA	Upset Recovery Training Aid
USC	United States Code
W&B	Weight and Balance
WARP	Weather and Radar Processor system
WG	Working Group
WHA	Wildlife Hazard Assessment
WHMP	Wildlife Hazard Management Plan
ZFW	Zero Fuel Weight

Fully Adopt

(This category includes recommendations that the FAA
has fully adopted or plans to fully adopt.)

Aviation Safety: Flight Standards Service

Aviation Safety: Aircraft Certification Service

Aviation Safety: Office of Aerospace Medicine

Air Traffic Organization

Airports

A-93-46. Amend 14 CFR Parts 121, 125, and 129 to require Traffic Alert and Collision Avoidance System (TCAS) flight simulator training for flightcrews during initial and recurrent training. This training should familiarize the flightcrews with TCAS presentations and require maneuvering in response to TCAS visual and aural alerts.

Proposed Completion Date: December 31, 2012

DOT Status: AIP

NTSB Status: OAAA

Implementation Description: In 1993 the FAA advised the Board that it was conducting an audit of air carriers to determine to what extent simulators and training devices were currently being used for TCAS initial and recurrent training. The FAA conducted audit revealed that all of the surveyed air carriers provided TCAS training to flightcrews during initial training. However, to meet the full intent of this recommendation, the FAA considered rulemaking to require TCAS flight simulator training during initial and recurrent flightcrew training. It has incorporated this proposed requirement in its Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers Supplemental Notice of Proposed Rulemaking (SNPRM), which published for public comment on May 20, 2011. A final rule is anticipated in 2012.

Although the FAA does not evaluate, monitor, or approve the training programs of part 129 operators (since they are foreign and not under the FAA's jurisdiction), on February 23, 2011, voluntary guidance was provided in Advisory Circular (AC) 120-55C, Air Carrier Operational Approval and Use of TCAS II, for TCAS II training programs. A revision of part 129 will not affect the training programs of foreign carriers; therefore, the FAA does not plan to revise part 129. The Board recognized that the FAA does not have the authority to require this training of foreign operators, but suggested the FAA encourage them to conduct the training. On March 20, 1997, the FAA sent a letter to all safety inspectors having oversight responsibility for part 129 air carriers asking that they encourage their operators to use flight simulator training to include maneuvering, in response to TCAS visual and aural alerts during initial and recurrent flightcrew training.

Previously Missed Deadline(s): P.L. 111-216 requires the FAA to promulgate rulemaking under sections 208 and 209 of the law. Section 209 outlines a final rule requirement by October 2011 for revisions to part 121, subparts N and O. Due to the extensive comments to the Notice of Proposed Rulemaking (NPRM) published in 2009, and additional congressional requirements that came about after the NPRM was released, the FAA published an SNPRM in May 2011. The final rule is anticipated in 2012.

A-94-107. Revise 14 CFR Section 121.445 to eliminate subparagraph (c), and require that all flight crewmembers meet the requirements for operation to or from a special airport, either by operating experience or pictorial means.

Proposed Completion Date: December 31, 2012

DOT Status: AIP**NTSB Status:** OAA

Implementation Description: The FAA incorporated this revision into the Qualification, Service and Use of Crewmembers and Aircraft Dispatchers SNPRM published on May 20, 2011. Section 121.1235 (c) addresses this recommendation.

Previously Missed Deadline(s): P.L. 111-216 requires the FAA to promulgate rulemaking under sections 208 and 209 of the law. Section 209 outlines a final rule requirement by October 2011 for revisions to part 121, subparts N and O. Due to the extensive comments to the NPRM published in 2009, and additional congressional requirements that came about after the NPRM was released, the FAA published an SNPRM in May 2011. The final rule is anticipated in 2012.

A-94-199. Revise the certification standards for Part 25 and for Part 23 (commuter category) aircraft to require that a flight simulator, suitable for flightcrew training under Appendix H of Part 121, be available concurrent with the certification of any new aircraft type.

Proposed Completion Date: December 31, 2012

DOT Status: AIP**NTSB Status:** OAAA

Implementation Description: Rather than amend parts 23 and 25, the FAA proposed in the Qualification, Service and Use of Crewmembers and Aircraft Dispatchers SNPRM published on May 20, 2011, an operational amendment to part 121 to require the use of high fidelity simulators and flight training devices in part 121 flight training programs. The decision to address this issue through an operational requirement rather than a certification action is more efficient from a regulatory project workload perspective and ensures that operational requirements are the basis for the approval and use of high fidelity simulators and flight training devices.

Previously Missed Deadline(s): P.L. 111-216 requires the FAA to promulgate rulemaking under sections 208 and 209 of the law. Section 209 outlines a final rule requirement by October 2011 for revisions to part 121, subparts N and O. Due to the extensive comments to the NPRM published in 2009, and additional congressional requirements that came about after the NPRM was released, the FAA published an SNPRM in May 2011. The final rule is anticipated in 2012.

A-95-113. Finalize the review of current flight and duty time regulations and revise the regulations, as necessary, within 1 year to ensure that flight and duty time limitations take into consideration research findings in fatigue and sleep issues. The new regulations should prohibit air carriers from assigning flightcrews to flights conducted under 14 Code of Federal Regulations (CFR) Part 91 unless the flightcrews meet the flight and duty time limitations of 14 CFR Part 121 or other appropriate regulations.

Proposed Completion Date: November 30, 2011

DOT Status: AIP

NTSB Status: OUA (December 29, 2009)

Implementation Description: On December 2, 1995, the FAA issued the Flight Crewmember Duty Period Limitations, Flight Time Limitations and Rest Requirements NPRM (withdrawn on November 23, 2009). The FAA encountered a number of technical and operational issues as a result of the NPRM and tasked the Aviation Rulemaking Advisory Committee (ARAC) to review issues related to the 1995 NPRM. Although the ARAC was unable to reach consensus on a recommendation, it did provide the FAA with a better understanding of the issues affecting industry.

On July 15, 2009, the FAA established the Flight and Duty Time Limitations and Rest Requirements Aviation Rulemaking Committee (ARC). The ARC developed recommendations on flight time limitations, duty period limits, and rest requirements for pilots operating under parts 121 and 135; and on September 1, 2009, submitted its recommendations to the FAA.

On September 14, 2010, the FAA published for public comment the Flightcrew Member Duty and Rest Requirements NPRM. The foundation of the NPRM is based upon operational experience, international regulatory guidance, and scientific research findings relative to fatigue and sleep issues.

The NPRM proposes flight and duty limitations and rest requirements for all flightcrew members and certificate holders conducting operations under part 121.

Previously Missed Deadline(s): The Flightcrew Member Duty and Rest Requirements final rule was scheduled to be published in August 2011 as outlined in P.L. 111-216. The final rule is currently scheduled to be published in November 2011.

A-96-95. Develop a controlled flight into terrain training program that includes realistic simulator exercises comparable to the successful windshear and rejected takeoff training programs and make training in such a program mandatory for all pilots operating under 14 CFR Part 121.

Proposed Completion Date: December 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: Distribution of the Controlled Flight Into Terrain (CFIT) Education and Training Aid began in 1997. This was a cooperative effort between industry and government. It provides a sample CFIT training program and includes a ground proximity escape maneuver. Also in 1997, the FAA revised AC 120-51B, Crew Resource Management (CRM), recommending CRM training in Line-Oriented Flight Training or Special Purpose Operational Training for cockpit crewmembers, which contains a CFIT scenario. More recently

Flight Standards Service

the FAA issued Information for Operators (InFO) 08043, Controlled Flight Into Terrain (CFIT) Training, on July 10, 2008. This InFO replaced old guidance and reemphasized the CFIT Training Aid.

To require this training, the FAA proposed the requirement in the Qualification, Service and Use of Crewmembers and Aircraft Dispatchers NPRM in 2009. Due to the extensive comments received, the FAA drafted an SNPRM, which published for public comment on May 20, 2011. A final rule is anticipated in 2012.

Previously Missed Deadline(s): P.L. 111-216 requires the FAA to promulgate rulemaking under sections 208 and 209 of the law. Section 209 outlines a final rule requirement by October 2011 for revisions to part 121, subparts N and O. Due to the extensive comments to the NPRM published in 2009, and additional congressional requirements that came about after the NPRM was released, the FAA published an SNPRM in May 2011. The final rule is anticipated in 2012.

A-96-120. Require 14 CFR Part 121 and 135 operators to provide training to flightcrews in the recognition of and recovery from unusual attitudes and upset maneuvers, including upsets that occur while the aircraft is being controlled by automatic flight control systems, and unusual attitudes that result from flight control malfunctions and uncommanded flight control surface movements.

Proposed Completion Date: FAA action for part 121 operators is anticipated in Fiscal Year (FY) 2012. A proposed completion date for part 135 has not yet been determined.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: In March 2010, the FAA participated in the Industry Stall and Stick Pusher Work Group (WG) to explore and develop options relative to stall and stick pusher training, testing, and checking.

The FAA published InFO 10010, Enhanced Upset Recovery Training, on July 6, 2010, which highlighted the merits and location of the industry produced Upset Recovery Training Aid (URTA). The InFO also encouraged utilization of the URTA in an operator's training program. The FAA is participating in the International Committee for Aviation Training in Extended Envelopes (ICATEE).

- This committee is researching methods and potential technical standards that may be incorporated into part 60 to expand the simulator operational envelope, which will enable more realistic upset and stall training;
- This committee is proposing specific improvements in both training and technology for effective upset recognition, avoidance, and recovery; and

Flight Standards Service

- Five deliverables are in preparation for completion in November 2011, which are a pilot handbook, an instructor handbook, a regulator handbook, research and technology requirements, and an update to simulator training requirements.

The FAA chartered the Stick Pusher and Adverse Weather (SPAW) ARC in September 2010. The SPAW ARC developed recommendations to identify the best procedures and training practices that will enable air carrier pilots to accurately and consistently respond to unexpected stick pusher activations, icing conditions, microburst, and windshear events. The final recommendations were provided to the FAA in July 2011. The FAA will take the SPAW ARC recommendations and provide a report to Congress and the Board by November 30, 2011, as mandated by P.L. 111-216.

On May 20, 2011, the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM published for public comment. This SNPRM addresses the requirements of P.L. 111 216, section 208(a), and stall and upset training.

Previously Missed Deadline(s): P.L. 111-216 requires the FAA to promulgate rulemaking under sections 208 and 209 of the law. Section 209 outlines a final rule requirement by October 2011 for revisions to part 121, subparts N and O. Due to the extensive comments to the NPRM published in 2009, and additional congressional requirements that came about after the NPRM was released, the FAA published an SNPRM in May 2011. The final rule is anticipated in 2012.

A-98-44. Require all 14 Code of Federal Regulations Part 121 air carriers to provide flightcrews with instruction on mistrim cues that might be available during taxi and initial rotation, and require air carriers using full flight simulators in their training programs to provide flightcrews with Special Purpose Operational Training that includes an unanticipated pitch mistrim condition encountered on takeoff.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: Representatives from the FAA, Air Transport Association of America (ATA), and Air Line Pilot's Association (ALPA) reviewed FAA-approved air carrier training programs to ensure that existing training for runaway trim and jammed stabilizer situations is effective in training mistrim situations. The group concluded that additional training in mistrim cues during taxi and initial rotation was not necessary; the Board agreed. However, the group determined that current regulations are not adequate to address cargo-handling issues. Consequently, the FAA established a Cargo Strategic Planning Group consisting of FAA operations and airworthiness specialists to determine what regulatory action may be necessary to address cargo-loading issues.

Flight Standards Service

On September 27, 2004, the FAA issued AC 120-35C, Line Operational Simulations: Line Oriented Flight Training, Special Purpose Operational Training, Line Operational Evaluation. The AC presents guidelines for the design and implementation of line operational simulations.

Subsequently, FAA staff met with the Board's staff to discuss the information contained in the AC. It was agreed that the FAA would revise the AC to incorporate language to address more specifically all-cargo operations.

Previously Missed Deadline(s): N/A

A-98-89. Require principal operations inspectors (POIs) to discuss the information contained in airplane flight manual revisions and/or manufacturers' operational bulletins with affected air carrier operators and, if the POI determines that the information contained in those publications is important information for flight operations, to encourage the affected air carrier operators to share that information with the pilots who are operating those airplanes.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On May 28, 1999, the FAA issued an urgent Joint Flight Standards Handbook Bulletin for Air Transportation (HBAT) 99-07, Airworthiness (HBAW) 99-07, and General Aviation (HBGA) 99-10, Flight Standards Policy-Company Operating Manuals and Company Training Program Revisions for Compliance with Current Airplane or Rotorcraft Flight Manual Revisions.

The FAA developed an electronic database that lists current aircraft manufacturers' operations bulletins, airplane flight manual (AFM) revisions, and rotorcraft flight manual (RFM) revisions. On October 27, 1999, the FAA issued HBAT 99-16A, HBAW 99-14A, and HBGA 99-20A, which announced the new database system.

Previously Missed Deadline(s): N/A

A-98-102. Require air carriers to adopt the operating procedures contained in the manufacturer's airplane flight manual and subsequent approved revisions or provide written justification that an equivalent safety level results from an alternative procedure.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA developed an electronic database that lists current aircraft manufacturers' operations bulletins, AFM revisions, and RFM revisions, which it

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believes meets the full intent of this recommendation. On October 27, 1999, the FAA issued HBAAT 99-16A, HBAW 99-14A, and HBGA 99-20A, which announced the new database systems.

To go one step farther, the FAA decided to incorporate this policy into the revisions to part 121, subparts N and O. The Qualification, Service and Use of Crewmembers and Aircraft Dispatchers NPRM published for public comment in January 2009. Due to the extensive comments received, the FAA drafted an SNPRM, which published for public comment on May 20, 2011. A final rule is anticipated in FY 2012.

Previously Missed Deadline(s): P.L. 111-216 requires the FAA to promulgate rulemaking under sections 208 and 209 of the law. Section 209 outlines a final rule requirement by October 2011 for revisions to part 121, subparts N and O. Due to the extensive comments to the NPRM published in 2009, and additional congressional requirements that came about after the NPRM was released, the FAA published an SNPRM in May 2011. The final rule is anticipated in 2012.

A-00-109. (1) Revise existing guidance and information about high-altitude operations to accurately reflect the time of useful consciousness and rate of performance degradation following decompression and to highlight the effect of hypoxia on an individual's ability to perform complex tasks in a changing environment and (2) incorporate this revised information into both the required general emergency training conducted under 14 Code of Federal Regulations Parts 121 and 135 and training and flight manuals provided to all pilots operating pressurized aircraft.

Proposed Completion Date: December 31, 2011

DOT Status: AIP

NTSB Status: OUA (June 25, 2004)

Implementation Description: Issued on January 2, 2003, AC 61-107A, Operations of Aircraft at Altitudes above 25,000 feet MSL and/or Mach Numbers (M_{MO}) Greater than .75, is being updated with the most current information. A section of the document was recently discussed between the FAA's Civil Aerospace Medical Institute (CAMI) and the Board in regards to time-of-useful-consciousness chart and table. In the near future, the AC will be finalized and published, with the intention of closing this recommendation.

Previously Missed Deadline(s): N/A

A-01-69. Define detailed parameters for a stabilized approach, develop detailed criteria indicating when a missed approach should be performed, and ensure that all 14 Code of Federal Regulations Part 121 and 135 carriers include this information in their flight manuals and training programs.

Completion Date: February 19, 2002

DOT Status: AC*

NTSB Status: OUA (October 17, 2002)

Implementation Description: The stabilized approach is acknowledged as one of the key features of safe approaches and landings in air carrier operations, especially those involving transport category airplanes. This subject was exhaustively studied by a highly qualified working group under the Commercial Aviation Safety Team (CAST), resulting in many related products, including an FAA AC. On August 10, 2000, the FAA issued AC 120-71, Standard Operating Procedures for Flight Deck Crewmembers. The AC includes the stabilized approach as one of the most important elements and includes detailed criteria with explicit guidance that the stabilized approach should be established no later than 1,000 feet above ground level in instrument meteorological conditions, and no later than 500 feet above ground level in visual meteorological conditions. The stabilized approach should be maintained until the landing maneuver begins, using normal bracketing corrections.

Included in AC 120-71, Appendix 1, is the recommended practice of establishing approach gates. Approach gates are points established by the operator as reference points for flight crews to monitor the quality of their progress during an approach to a landing and to promote their situational awareness. Approach gates are points at which vertical and lateral deviation limits are noted and stabilized approach criteria are checked. These criteria indicate whether an approach can continue or a missed approach should be executed. The FAA does not believe it is appropriate to establish prescriptive points along an approach path that constitute a missed approach being called. Individual operators should make those determinations for their operations.

The FAA also provides guidance to its inspectors in FAA Order 8900.1, Flight Standards Information Management System (FSIMS), on stabilized approaches. Specific items inspectors are supposed to review during enroute surveillance include a stabilized approach in the landing configuration. The approach should reflect the operators' procedures. There is also additional guidance as a "special emphasis item" that directs inspectors with program responsibility for airman certification and testing to review the adequacy of pilot training and competence with respect to landing on slippery runways and the phenomenon of hydroplaning. Pilot training programs should cover these subject areas with emphasis on the operational procedures that are essential to a successful landing, which includes a stabilized approach.

Previously Missed Deadline(s): N/A

A-01-85. Amend 14 Code of Federal Regulations 121.417 to require participation in firefighting drills that involve actual or simulated fires during crewmember recurrent training and to require that those drills include realistic scenarios on recognizing potential signs of, locating, and fighting hidden fires.

Completion Date: January 8, 2004

DOT Status: AC✓

NTSB Status: OUA (June 28, 2002)

Implementation Description: The FAA issued AC 120-80, In-Flight Fires, on January 8, 2004. The AC emphasizes the need for an immediate response to an in-flight fire and addresses the importance of investigating fires hidden behind interior panels and the techniques for effective application of extinguishing agents.

The FAA also updated its inspector guidance for approving emergency training curriculum segments in FSIMS to include specifics on fighting fires and what drills should be practiced and how often. The guidance to cabin safety inspectors can be found in volume 3, chapter 23, section 6. The information for POIs can be found in volume 3, chapter 19, section 4.

Previously Missed Deadline(s): N/A

A-02-2. Carefully review all existing and proposed guidance and training provided to pilots of transport-category airplanes concerning special maneuvers intended to address unusual or emergency situations and, if necessary, require modifications to ensure that flight crews are not trained to use the rudder in a way that could result in dangerous combinations of sideslip angle and rudder position or other flight parameters.

Completion Date: July 6, 2010

DOT Status: AC✓

NTSB Status: OAA (July 22, 2002)

Implementation Description: Following the issuance of this recommendation, the FAA immediately sent an aviation safety inspector (ASI) team to review the three main Airbus operators' training programs. This review showed that none of the operators conduct training on the rudder in a way that could result in dangerous combinations of sideslip angles and rudder position or other flight parameters. Based on the review and the FAA's familiarity with other air carrier training programs, the FAA is confident that the operators are not training their pilots to use dangerous combinations of sideslip angles and rudder position or other flight parameters.

On February 15, 2002, the FAA issued Notice (N) 8400.28, Transport Category Airplanes Rudder and Vertical Stabilizer Awareness, as an interim step to notify POIs of air carriers that operate transport category airplanes of the operational use of rudder pedals and the potential subsequent effects on the vertical stabilizer.

In addition, on February 15, 2002, the FAA contacted select manufacturers and industry organizations to inform them that it shares the Board's concern regarding pilot training on the use of the rudder in transport category airplanes. The manufacturers prepared flight technical operations bulletins that address the Board, and the FAA shared concerns and were distributed to all of their operators. Training programs may be changed by mutual agreement of the operator and the FAA based on the technical operations bulletins.

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On October 25, 2005, the FAA issued Safety Alert for Operators (SAFO) 05002, Multiple Full Deflection, Alternating Flight Control Inputs. This SAFO urged directors of safety, directors of operations, fractional ownership program managers, and pilots of transport-category airplanes to familiarize themselves with the location, availability, and content of the airplane URTA, and to pay particular attention to the cautions against control reversals and pilot-induced oscillations that are repeated throughout the training aid.

The FAA published InFO 10010, Enhanced Upset Recovery Training, on July 6, 2010, which reiterated the merits and location of the industry produced URTA. The InFO also encouraged utilization of the URTA in an operator's training program.

Previously Missed Deadline(s): N/A

A-03-30. Require all DC-8 operators to review their work cards related to critical flight controls, and revise them as necessary to ensure that appropriate tasks are identified as discrete tasks with individual inspection signoff requirements.

Completion Date: October 29, 2010

DOT Status: AC*

NTSB Status: OAA (January 12, 2005)

Implementation Description: On October 29, 2010, the FAA issued a change FSIMS, volume 3, chapter 43, Evaluate a Continuous Airworthiness Maintenance Program, which amends section 1, Air Carrier Maintenance Manual (work cards – page 8) to include the following:

...The air carrier should use the aircraft manufacturer's maintenance manual procedures and drawings as the basis for developing its own work cards. The air carrier should give special attention to work cards involving required inspections and flight control systems to ensure that they are accurate, and contain complete and relevant technical data and drawings. The air carrier should include discrete (separate or distinct) tasks with individual inspection sign-off requirements for post-rigging verification.

The FAA believes the issuance of FSIMS, volume 3, chapter 43, section 1, satisfactorily addresses the issues pertaining to the air carrier's use of work cards.

Previously Missed Deadline(s): N/A

A-04-9. Prohibit inspectors from performing required inspection item inspections on any maintenance task for which the inspector provided on-the-job training to the mechanic who accomplished the task.

Completion Date: February 1, 2011

DOT Status: AC✓**NTSB Status:** OUA (October 12, 2005)

Implementation Description: Federal regulations are currently in place that prevent any person performing any item of work from also performing any required inspection of that work. Section 121.369, Manual Requirements, contains a list of items an operator is required to include in their manuals, as described below:

- (a) A designation of the items of maintenance and alteration that must be inspected (required inspections), including at least those that could result in a failure, malfunction, or defect endangering the safe operation of the aircraft, if not performed properly or if improper parts or materials are used.
- (b) The method of performing required inspections and a designation by occupational title of personnel authorized to perform each required inspection.
- (c) Instructions to prevent any person who performs any item of work from performing any required inspection of that work.

Section 121.371, Required Inspection Personnel, further states:

- (a) No person may use any person to perform required inspections unless the person performing the inspection is appropriately certificated, properly trained, qualified, and authorized to do so.
- (b) No person may allow any person to perform a required inspection unless, at that time, the person performing that inspection is under the supervision and control of an inspection unit.
- (c) No person may perform a required inspection if he performed the item of work required to be inspected.
- (d) Each certificate holder shall maintain, or shall determine that each person with whom it arranges to perform its required inspections, maintains, a current listing of persons who have been trained, qualified, and authorized to conduct required inspections. The persons must be identified by name, occupational title, and the inspections that they are authorized to perform. The certificate holder (or person with whom it arranges to perform its required inspections) shall give written information to each person so authorized describing the extent of his responsibilities, authorities, and inspectional limitations. The list shall be made available for inspection by the Administrator upon request.

Note: §§ 135.427 and 135.429 contain similar language.

On October 29, 2010, the FAA issued Section 2 to FSIMS, volume 3, chapter 43, Evaluate a Continuous Airworthiness Maintenance Program, which provides additional information, clarification and policy for evaluating the required inspection elements of the certificate holder's Continuous Airworthiness Maintenance Program (CAMP). An element in this new section further provides clarification to FAA inspectors that any person performing on-the-job training (OJT) may not perform the required inspection on that item of work. It also recommends that the certificate holder assign a qualified and authorized employee at the inspection site to oversee the performance of required inspections by other persons. In cases where the assigned air carrier employee cannot be physically present, there should be a method of contacting the employee.

The applicable areas are as follows:

1. Persons Who Perform Any Item of Work Cannot Perform the Required Inspection:

... §§ 121.369(b)(7) and 135.427(b)(7) require the certificate holder to include in its manual instructions to prevent any person who performs any item of work from performing any required inspection of that work. This includes any person who provides OJT to any person who performs an item of work. A primary concept of the RII function is that the person performing the item of work may not perform the required inspection on that item of work...

2. Contract Maintenance:

Although the regulations allow the air carrier to use another person to perform its required inspections, it does not relieve the certificate holder of its responsibility for ensuring other persons perform the required inspections in accordance with the air carrier's procedures. Based on accident investigation findings on failed required inspections, the FAA highly recommends that the certificate holder assign a qualified and authorized employee at the inspection site to oversee the performance of required inspections by other persons. In cases where the assigned air carrier employee cannot be physically present at the work site such as during multiple shifts, there should be a method of contacting the assigned employee if any questions arise on a required inspection...

The FAA believes that the current regulatory requirements of §§ 121.369, 121.371, 135.427, and 135.429, and the additional guidance found in FSIMS, volume 3, chapter 43, section 2, satisfactorily address the issues pertaining to Safety Recommendation (SR) A-04-9.

Previously Missed Deadline(s): N/A

A-04-11. Develop detailed on-the-job (OJT) training requirements for 14 Code of Federal Regulations (CFR) Part 121 air carriers that rely on OJT as a maintenance training method. These requirements should include, but not be limited to, best practices, procedures, and methods for accomplishment and administration of this training. Ensure that these OJT requirements are incorporated into 14 CFR Part 121 air carrier maintenance training programs.

A-04-15. Require that all 14 Code of Federal Regulations Part 121 air carrier maintenance training programs be approved.

A-04-16. Require that 14 Code of Federal Regulations Part 121 air carriers implement comprehensive human factors programs to reduce the likelihood of human error in aviation maintenance.

Proposed Completion Date: December 31, 2014

DOT Status: AIP

NTSB Status: OUA (May 28, 2010)

Implementation Description: The FAA initiated the Air Carrier Maintenance Training Program (ACMTP) rulemaking project in May 2010 and is currently developing an NPRM to address uniform compliance with ACMTPs, including OJT and comprehensive human factors training. This NPRM is expected to be published in 2012.

As SR A-04-16 is a very broad based recommendation, the FAA believes that the intent of this recommendation is best met by requiring air carriers to include both initial and recurrent training on human factors in their FAA approved ACMTPs (see response to A-97-71 for details on actions taken for human factors studies and outcomes).

Previously Missed Deadline(s): N/A

A-04-18. Unless an actual weight program is developed and implemented, establish a weight and balance program that requires 14 Code of Federal Regulations Part 121 air carriers to periodically sample passenger and baggage weights and determine appropriate statistical distribution characteristics for regional, seasonal, demographic, aircraft, and route variances.

A-04-19. Establish a program to periodically review 14 Code of Federal Regulations Part 121 air carrier weight and balance data to ensure that regional, seasonal, demographic, aircraft, and route trends among carriers are valid.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OUA (November 2, 2009)

Implementation Description: The FAA revised AC 120-27E, Aircraft Weight and Balance Control, on June 10, 2005, to include guidance to periodically sample passenger and baggage weights and determine appropriate statistical distribution characteristics for regional, seasonal, demographic, aircraft, and route variances. The FAA subsequently published a new chapter in FSIMS, and published AC 20-161, Aircraft Onboard Weight and Balance Systems, on April 11, 2008.

The FAA decided in 2010 that a fresh review of the existing weight and balance (W&B) guidance material and the associated FAA operations specifications (OpSpecs) is necessary. In April 2010, an FAA W&B WG was established to review and update all published FAA W&B guidance material and revise the FAA OpSpecs related to W&B.

This WG focused on guidance and OpSpecs concerning the use of average passenger and actual passenger weights to include sampling and statistical distribution characteristics of different types of operations. The WG is completing its revisions to AC 120-27 as well as the inspector guidance found in FSIMS, volume 3, chapter 47, Evaluate Part 121/125/135 Operator's Weight and Balance Control Program. To complete the AC revision, the WG plans to conduct a survey of actual carry-on and checked baggage weights in 2011.

Previously Missed Deadline(s): N/A

A-04-62. Along with developing the guidance recommended in Safety Recommendation A-04-61, evaluate issues concerning the level of automation appropriate to teaching upset training and develop and disseminate guidance that will promote standardization and minimize the danger of inappropriate simulator training.

Proposed Completion Date: September 30, 2013

DOT Status: AIP

NTSB Status: OAA

Implementation Description: In March 2010, the FAA participated in the Industry Stall and Stick Pusher WG to explore and develop options relative to stall and stick pusher training, testing, and checking. The FAA published InFO 10010, Enhanced Upset Recovery Training, on July 6, 2010, which highlighted the merits and location of the industry produced URTA. The InFO also encouraged utilization of the URTA in an operator's training program.

The FAA is also participating in the ICATEE:

- The committee is researching methods and potential technical standards that may be incorporated into part 60 to expand the simulator operational envelope, which will enable more realistic upset and stall training;
- This committee is proposing specific improvements in both training and technology for effective upset recognition, avoidance, and recovery; and
- Five deliverables are in preparation for completion by November 2011, which are a pilot handbook, an instructor handbook, a regulator handbook, and research & technology requirements.

The FAA chartered the SPAW ARC in September 2010. The SPAW ARC developed recommendations to identify the best procedures and training practices that will enable air carrier pilots to accurately and consistently respond to unexpected stick pusher activations, icing conditions, and microburst and windshear events. The final recommendations were provided to the FAA in July 2011. The FAA will take the SPAW ARC recommendations and provide a report to Congress and the Board by November 30, 2011, as mandated by P.L. 111-216.

On May 20, 2011, the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM published for public comment. This SNPRM addresses the requirements of P.L. 111-216, section 208(a), and stall and upset training. In addition, the FAA is developing corresponding guidance material.

Previously Missed Deadline(s): N/A

A-05-1. Require all Part 121 and 135 air carriers to obtain any notices of disapproval for flight checks for certificates and ratings for all pilot applicants and evaluate this information before making a hiring decision.

Proposed Completion Date: June 30, 2014

DOT Status: AIP

NTSB Status: OUA (February 23, 2010)

Implementation Description: The intent of this recommendation has already been acted upon in P.L. 111-216, Section 203, FAA Pilot Records Database (PRD). A PRD task force is currently incorporating this recommendation into the new database system.

Previously Missed Deadline(s): N/A

A-05-2. Conduct a study to determine whether the number of flight checks a pilot can fail should be limited and whether the existing system of providing additional training after a notice of disapproval is adequate for pilots who have failed multiple flight checks. On the basis of the findings of the study, establish a flight check failure limit and modify the recheck training requirements, if necessary.

Proposed Completion Date: September 30, 2015

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA conducted a study in 2004 to determine if there is a correlation between flight test failures and the airman being cited in an FAA enforcement action. A review of a total of 15,024 disapprovals against the FAA Enforcement Information System showed a very low correlation, less than one percent. Based on those findings, no additional action was taken.

In 2010, the PRD ARC was formed as a result of P.L. 111-216, section 203. This section stipulates that the database must contain pilot training records from air carriers including qualification checks, proficiency checks, and employment termination. Tracking this information and making it available to operators enables the operators to make more informed decisions in hiring. This is an alternative action to establishing a check failure limit. The PRD ARC provided its recommendations to the FAA in July 2011. The FAA elected to pursue a rulemaking project based on the complexity of developing a new PRD as required by P.L. 111-216. Database development began in October 2010 with implementation of the first phase anticipated by July 2012. While the new database will rely heavily on existing databases, the FAA will likely initiate a separate policy impact statement and system of record notice for the PRD.

Previously Missed Deadline(s): N/A

A-05-14. Require all 14 Code of Federal Regulations Part 121 air carrier operators to establish programs for flight crewmembers who have demonstrated performance deficiencies or experienced failures in the training environment that would require a review of their whole performance history at the company and administer additional oversight and training to ensure that performance deficiencies are addressed and corrected.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAAA

Implementation Description: On October 27, 2006, the FAA issued SAFO 06015, Remedial Training for Part 121 Pilots, recommending implementation and incorporation of a voluntary remedial part 121 pilot training module to supplement an air carrier's approved training program. On April 23, 2009, the FAA issued Notice N 8900.71, Verification of Bounced Landing Training (Parts 121, 135 and 91K) and Remedial Training (Part 121), which instructed POIs to determine whether the part 121 air carriers they inspected were voluntarily complying with SAFO 06015 and to report their results. The initial response from POIs was not sufficient so an additional notice was issued in June 2009.

In January 2010, the FAA issued a factsheet regarding its report, Answering the Call to Action on Airline Safety and Pilot Training. The factsheet stated that, of the non-advanced qualification program (AQP) carriers surveyed, all had developed remedial training programs. AQP training programs have a "train to proficiency" philosophy and therefore have remedial training programs built in.

P.L. 111-216, section 208(a), requires the FAA to conduct rulemaking requiring part 121 operators to establish remedial training programs. The Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM addresses this requirement. The SNPRM published for public comment on May 20, 2011.

Previously Missed Deadline(s): N/A

A-05-15. Amend the emergency exit training information contained in the flight crew and cabin crew sections in Federal Aviation Administration Order 8400.10, Air Transportation Aviation Inspectors Handbook, to make the emergency exit door/slide training described in the flight crew section as comprehensive as the cabin crew emergency training section of the principal operations inspector handbook.

Completion Date: May 26, 2010

DOT Status: AC*

NTSB Status: OUA (November 29, 2010)

Implementation Description: FAA Order 8400.10, Air Transportation Aviation Inspectors Handbook, was incorporated into FSIMS. Volume 3, chapter 19, section 4, of FSIMS

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incorporates recommendations and best practices for the development of flightcrew member and cabin crew emergency training curriculum.

Previously Missed Deadline(s): N/A

A-05-16. Verify that all 14 Code of Federal Regulations (CFR) Part 121 operators emergency door/slide trainers are configured to accurately represent the actual airplane exit door/slide and that their flight crew emergency exit door/slide training provides the intended hands-on emergency procedures training as described in 14 CFR 121.417, to include pulling the manual inflation handle.

Completion Date: March 18, 2011

DOT Status: AC✓

NTSB Status: OAA (January 19, 2006)

Implementation Description: FSIMS contains the requirements for both flight attendant and flightcrew emergency procedures training, which includes requiring the use of mockups that are configured to accurately represent the actual airplane exit door/slide and provides the intended hands-on emergency training. The information for flight attendants can be found in volume 3, chapter 23, section 6, paragraph 3-1864 of FSIMS, and the information for flightcrew members can be found in volume 3, chapter 19, section 4, paragraph 3-1179 of FSIMS.

The FAA published Notice N 8900.149, Accuracy of Emergency Exit and Escape Devices Training Provided to Flightcrew Members, on March 18, 2011. The notice directs POIs responsible for the oversight of part 121 air carrier training programs to ensure the accuracy of training being delivered to flightcrew members with respect to emergency exits and escape devices.

Previously Missed Deadline(s): N/A

A-05-30. Require all 14 Code of Federal Regulations Part 121 and 135 air carriers to incorporate bounced landing recovery techniques in their flight manuals and to teach these techniques during initial and recurrent training.

Completion Date: April 23, 2009

DOT Status: AC✓

NTSB Status: OAA (February 15, 2007)

Implementation Description: On June 9, 2006, the FAA issued SAFO 06005, Bounced Landing Training for Certificate Holders Operating Under Title 14 of the Code of Federal Regulations (14 CFR) Parts 121 and 135. This SAFO recommends that each part 121 or 135 airline check to see that bounced landing recovery techniques are included in the manuals used by their pilots and in their initial ground training for each of the airplane types that the airline

flies. The SAFO also recommends that those same techniques are reinforced by briefings and debriefings during flight training, supervised operating experience, and line checks. The SAFO includes instructions on how to develop this information on bounced landing recovery techniques if it is not already addressed by the carrier.

To assess the effectiveness of SAFO 06005, on April 23, 2009, the FAA issued Notice N 8900.71, Verification of Bounced Landing Training (Parts 121, 135, & 91K) and Remedial Training (Part 121). The response from the inspectors was not sufficient to report, so the FAA enlisted the assistance of ATA and the Regional Airline Association (RAA) to poll their member carriers to find out if they incorporated bounced landing training into their program as SAFO 06005 suggests. Both organizations reported 100 percent implementation of the SAFO's recommendations.

Previously Missed Deadline(s): N/A

A-06-8. Require all 14 Code of Federal Regulations Part 121 and 135 operators to incorporate the constant-angle-of-descent technique into their nonprecision approach procedures and to emphasize the preference for that technique where practicable.

Proposed Completion Date: A proposed completion date cannot be determined until a decision is made regarding part 135. However, part 121 is addressed in the NPRM and a final rule is expected in FY 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On May 21, 2009, the FAA issued SAFO 09011, Part 121 and 135 Operators: Constant Angle of Descents Techniques for Nonprecision Approaches, which recommends the use of a constant angle of descent, but does not mandate it. To require this technique for part 121 operators, the FAA published the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers NPRM on January 12, 2009. As a result of the comments received to the proposed rule, the FAA drafted an SNPRM, which was published for public comment May 20, 2011. A final rule is expected in FY 2012.

The FAA has not yet determined if rulemaking for part 135 operators is necessary to meet the intent of this recommendation. The FAA did emphasize the preference of the technique in the SAFO, and that operators provide the FAA with knowledge of operator use of the guidance. The FAA finds that a rule would not be appropriate for all of part 135 operators and has yet to decide on a rule for any portion of part 135 operators. All part 135 operators have the option of complying with part 121 training. Most of the 135 operators that comply with part 121 training are jet operators.

Previously Missed Deadline(s): N/A

A-06-10. Modify and simplify the flight crew hours-of-service regulations to take into consideration factors such as length of duty day, starting time, workload, and other factors shown by recent research, scientific evidence, and current industry experience to affect crew alertness.

Proposed Completion Date: November 30, 2011

DOT Status: AIP

NTSB Status: OUA (December 29, 2009)

Implementation Description: The FAA published the Flightcrew Member Duty and Rest Requirements NPRM on September 14, 2010. This NPRM proposes to modify the current hours-of-service regulations for all part 121 operators. The proposed hours-of-service regulations considers many factors such as circadian rhythm issues, multiple time zone crossings, start time, the length of the duty day, number of segments, and other factors demonstrated by scientific research data and current industry experience to improve flightcrew alertness and reduce performance errors. The final rule is currently scheduled to be published in November 2011.

Previously Missed Deadline(s): The Flightcrew Member Duty and Rest Requirements final rule was scheduled to be published in August 2011 as outlined in P.L. 111-216. The final rule is currently scheduled to be published in November 2011.

A-07-1. Work with members of the aviation industry to enhance the training syllabuses for pilots conducting high altitude operations in regional jet airplanes. The syllabuses should include methods to ensure that these pilots possess a thorough understanding of the airplanes' performance capabilities, limitations, and high altitude aerodynamics.

A-07-2. Determine whether the changes to be made to the high altitude training syllabuses for regional jet airplanes, as requested in Safety Recommendation A-07-1, would also enhance the high altitude training syllabuses for all other transport-category jet airplanes and, if so, require that these changes be incorporated into the syllabuses for those airplanes.

A-07-3. Require that air carriers provide their pilots with opportunities to practice high altitude stall recovery techniques in the simulator during which time the pilots demonstrate their ability to identify and execute the appropriate recovery technique.

Proposed Completion Date: September 30, 2013

DOT Status: AIP

NTSB Status: OAA

Implementation Description: In March 2010, the FAA participated in the Industry Stall and Stick Pusher WG to explore and develop options relative to stall and stick pusher training, testing, and checking.

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The FAA published InFO 10010, Enhanced Upset Recovery Training, on July 6, 2010, which highlighted the merits and location of the industry produced URTA. The InFO also encouraged utilization of the URTA in an operator's training program.

The FAA is participating in the ICATEE:

- The committee is researching methods and potential technical standards which may be incorporated into part 60 to expand the simulator operational envelope which will enable more realistic upset and stall training;
- This committee is proposing specific improvements in both training and technology for effective upset recognition, avoidance, and recovery; and
- Five deliverables are in preparation for completion by November 2011, which are a pilot handbook, an instructor handbook, a regulator handbook, research & technology requirements, and an update to simulator training requirements.

The FAA chartered the SPAW ARC in September 2010. The SPAW ARC developed recommendations to identify the best procedures and training practices that will enable air carrier pilots to accurately and consistently respond to unexpected stick pusher activations, icing conditions, and microburst and windshear events. The final recommendations were provided to the FAA in July 2011. The FAA will take the SPAW ARC recommendations and provide a report to Congress and the Board by November 30, 2011, as mandated by P.L. 111-216. On May 20, 2011, the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM was published for public comment. This SNPRM addresses the requirements of P.L. 111-216, section 208(a), and stall and upset training.

Previously Missed Deadline(s): N/A

A-07-6. Require regional air carriers operating under 14 Code of Federal Regulations Part 121 to provide specific guidance on expectations for professional conduct to pilots who operate nonrevenue flights.

Proposed Completion Date: September 30, 2013

DOT Status: AIP

NTSB Status: OAAA

Implementation Description: On July 3, 2007, the FAA issued SAFO 07006, Safety During Positioning Flights. Since then, pilot professionalism throughout the industry and beyond nonrevenue flights received increased attention. The following is a list of actions the FAA is currently working on to address pilot professionalism:

- In the June 15, 2009, Call to Action, the FAA committed to the development of airline mentoring programs to address professional standards and flight discipline;

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- Flight Crewmember Mentoring, Leadership and Professional Development ARC was established in September 2010 as a result of P.L. 111-216. ARC recommendations were provided to the FAA in November 2010;
- Flight Crewmember Mentoring, Leadership and Professional Development NPRM has been drafted and is currently in internal FAA coordination. NPRM publication is anticipated later this year; and
- An AC on mentoring, leadership, and professional development will also be written and published for public comment when the NPRM is published.

Previously Missed Deadline(s): N/A

A-07-7. For those regional air carriers operating under 14 Code of Federal Regulations Part 121 that have the capability to review flight data recorder (FDR) data, require that the air carriers review FDR data from nonrevenue flights to verify that the flights are being conducted according to standard operating procedures.

Completion Date: July 3, 2007

DOT Status: AC✓

NTSB Status: OAAA (January 22, 2008)

Implementation Description: The FAA issued SAFO 07006, Safety During Positioning Flights, on July 3, 2007, to encourage voluntary compliance with this recommendation. Part 121 operators are not required to have the capability to review the FDR. By requiring operators to perform an extra task if they can review the FDR, it serves as a disincentive for those operators that currently cannot review an FDR to acquire this capability. The Board recognizes this and agreed the SAFO would be an acceptable alternative to meeting the intent of this recommendation.

Previously Missed Deadline(s): N/A

A-07-10. Require that all 14 Code of Federal Regulations Part 121 operators establish Safety Management System programs.

Proposed Completion Date: August 1, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA first began work toward consideration of a safety management system (SMS) rule in 2007. Subsequent to those activities, PL 111-216 required that the FAA initiate rulemaking, issue an NPRM within 90 days, and issue a final rule within 24 months. The Safety Management Systems for Part 121 Certificate Holders NPRM was

published on November 5, 2010. The comment period closed and the rulemaking team is in the process of responding to the comments and accomplishing other activities required to complete the rulemaking. Currently, the FAA is on schedule and in compliance with the requirements of this legislation.

Previously Missed Deadline(s): N/A

A-07-44. Require that all 14 Code of Federal Regulations Part 91K, 121, and 135 operators establish procedures requiring all crewmembers on the flight deck to positively confirm and cross-check the airplane's location at the assigned departure runway before crossing the hold short line for takeoff. This required guidance should be consistent with the guidance in Advisory Circular 120-74A and Safety Alert for Operators 06013 and 07003.

Proposed Completion Date: A proposed completion date cannot be determined until a decision is made regarding part 135. However, part 121 is addressed in the NPRM and a final rule is expected in 2012.

DOT Status: AIP

NTSB Status: OUA (August 22, 2008)

Implementation Description: The following guidance has become an industry-standard template for building, reviewing, and updating procedures for all operations, including those on the ground:

- AC 120-74A, Parts 91, 121, 125, and 135 Flightcrew Procedures during Taxi Operations, issued on September 26, 2003;
- SAFO 06013, Flight Crew Techniques and Procedures That Enhance Pre-takeoff and Takeoff Safety, issued on September 1, 2006;
- SAFO 07003, Confirming the Takeoff Runway, issued on April 16, 2007; and
- AC 120-71A, Standard Operating Procedures for Flight Deck Crew Members, issued on February 27, 2003.

Subsequent to the Comair Lexington accident in 2006, the FAA issued the following InFOs:

- InFO 07009, Runway Lights Required for Night Takeoffs in Part 121, issued on May 11, 2007; and
- InFO 07018, Taxi Clearances: Know the Rules, Understand Your Clearance, issued on August 8, 2007.

The FAA held a “Call to Action” on August 15, 2007, where key industry stakeholders participated in a one-day meeting to focus on short-term and long-term measures to further improve the safety of operations at its airports. In 2007, the FAA Flight Standards (AFS) leadership conducted a series of “Road Shows” to reinforce and support the Call to Action.

Fractional ownership (part 91K) program managers have always had the option to train pilots under part 121 or 135 training rules, with FAA approval. Virtually all part 91K operators

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conduct some or all of their training activities at part 142 training centers. Many part 142 training centers currently address runway safety issues in their training programs. The FAA hosted a three-day meeting during the last week of September 2007 where it pointedly called upon training center program managers to effectively address runway safety issues in all of their pertinent training curricula, such as:

- March 2008 – Surface incident awareness month for Air Traffic Control (ATC);
- August 2008 – New runway crossing procedure established;
- April 2009 – Outreach DVDs and brochures in Aircraft Owners and Pilots Association (AOPA) magazine;
- April 2009 – Hearback/readback presentation delivered to ATC;
- September 2009 – Electronic Flight Bag and Moving Map Display at Test Air Carriers completed; and
- September 2011 – Airport Surface Detection Equipment, Model X (ASDE-X) deployment to 35 airports completed.

On June 28, 2010, the FAA Office of Runway Safety issued mid-term and long-term initiatives as a result of the Call to Action in 2007.

The Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM was published for comment on May 20, 2011. The proposed rule would amend part 121 regulations for crewmember and dispatcher training programs. The SNPRM proposes training in runway safety issues such as confirmation of proper runway alignment, incursions onto active runways, and ground situational awareness. The FAA anticipates a final rule in 2012. The FAA has not yet determined if rulemaking for part 135 operators will be done.

The FAA is currently drafting a SAFO and a notice to inspectors on runway incursion prevention. The SAFO warns of an increase in runway incursions and offers recommendations and resources to reduce those occurrences involving pilot errors. The notice is being published as a result of the Call to Action in 2007 and will provide awareness among FAA inspectors of an increase in pilot induced runway incursions, and to re-emphasize an FAA commitment to reduce these deviations. The FAA anticipates publication of these documents by October 2011.

Previously Missed Deadline(s): P.L. 111-216 requires the FAA to promulgate rulemaking under sections 208 and 209 of the law. Section 209 outlines a final rule requirement by October 2011 for revisions to part 121, subparts N and O. Due to the extensive comments to the NPRM published in 2009, and additional congressional requirements that came about after the NPRM was released, the FAA published an SNPRM in May 2011. The final rule is anticipated in 2012.

A-07-60. Require all 14 Code of Federal Regulations Part 121 and 135 operators of thrust reverser-equipped airplanes to incorporate a procedure requiring the non-flying (monitoring) pilot to check and confirm the thrust reverser status immediately after touchdown on all landings.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA explicitly recommended the checking and confirming actions of the non-flying (monitoring) pilot, as recommended by the Board, in AC 120-71, Standard Operating Procedures for Flight Deck Crewmembers. Appendix 18, “Landing Rollout – Actions and Callouts” is devoted entirely to the phase of flight immediately after touchdown, and specifies that the pilot monitoring:

- Monitors thrust reverser deployment; and
- Advises the pilot flying of thrust reverser status.

Previously Missed Deadline(s): N/A

A-07-96. Require air carriers to revise their cabin crew training manuals and programs to ensure that the manuals and programs state that a door must remain open while the air conditioning (A/C) cart is connected, advise that the A/C cart can pressurize the airplane on the ground if all doors are closed, and warn about the dangers of opening any door while the air conditioning cart is supplying conditioned (cooled or heated) air to the cabin.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA published SAFO 08007, Hazard Present on Airplanes Pressurized by an A/C Cart During Ground Operations, on January 25, 2008. This SAFO informs air carriers about the hazard presented by an A/C cart pressurizing an airplane cabin on the ground if all airplane doors are closed.

Current training regulations in §§ 121.419 and 121.421 require an air carrier to train its crewmembers on physical characteristics of each airplane that effect normal and emergency crewmember procedures. The FAA is currently engaged in rulemaking that would revise subparts N and O of part 121, and include more detailed training requirements in the form of crewmember Qualification Performance Standards. The FAA proposed including “cabin pressurization indications and warnings” and “cabin pressurization indicators and systems” in the training subtasks for flight attendants in the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM, which was published for comment on May 20, 2011.

In addition, a notice to inspectors is in coordination to ensure that the emergency evacuation checklist for all airplanes includes a confirmation between both pilots that the cabin differential pressure is zero before notifying the flight attendants to begin an emergency evacuation. The FAA anticipates publishing this notice prior to the end of 2011. The FAA believes its actions meet the full intent of this recommendation.

Previously Missed Deadline(s): N/A

A-08-16. Require 14 Code of Federal Regulations Part 121, 135, and Part 91 subpart K operators to include, in their initial, upgrade, transition, and recurrent simulator training for turbojet airplanes, (1) decision-making for rejected landings below 50 feet along with a rapid reduction in visual cues and (2) practice in executing this maneuver.

Proposed Completion Date: FAA action for part 121 operators will be complete in FY 2012. A proposed completion date for parts 135 and 91K operators has not yet been determined.

DOT Status: AIP

NTSB Status: OAAA

Implementation Description: The FAA published SAFO 09016, Rejected Landing Due to Loss of Visibility, on October 20, 2009, to address this recommendation. In addition, the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM, published for comment on May 20, 2011, addresses approach and landing training of pilots in part 121 operations. The FAA anticipates a final rule in FY 2012.

Previously Missed Deadline(s): N/A

A-08-17. Require 14 Code of Federal Regulations Part 121, 135, and Part 91 subpart K operators to include, in their initial, upgrade, transition, and recurrent simulator training for turbojet airplanes, practice for pilots in accomplishing maximum performance landings on contaminated runways.

Proposed Completion Date: FAA action for part 121 operators will be complete in FY 2012. A proposed completion date for parts 135 and 91K operators has not yet been determined.

DOT Status: AIP

NTSB Status: OAAA

Implementation Description: The FAA has existing policy and guidance that supports this recommendation. FSIMS lists pertinent guidance and requests that POIs bring winter operations issues to the attention of operators. FSIMS also directs POIs to ensure that operator's manuals contain specific instructions and information for flight crews operating in adverse weather conditions, and to review the content of their assigned operator's training program to ensure adequate coverage of adverse weather operations. The FAA does not believe it is necessary to modify the guidance for its inspectors. However, the FAA published SAFO 09015, Training For Maximum Performance Landings on Contaminated Runways, on October 20, 2009, to address this recommendation. In addition, the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM, published for comment on May 20, 2011, addresses approach and landing training of pilots in part 121 operations. The FAA anticipates a final rule in FY 2012.

Previously Missed Deadline(s): N/A

A-08-19. In cooperation with pilot unions, the Regional Airline Association, and the Air Transport Association, develop a specific, standardized policy for 14 Code of Federal Regulations Part 121, 135, and Part 91 subpart K operators that would allow flight crewmembers to decline assignments or remove themselves from duty if they were impaired by a lack of sleep.

A-08-20. Once the fatigue policy described in Safety Recommendation A-08-19 has been developed, require 14 Code of Federal Regulations Part 121, 135, and Part 91 subpart K operators to adopt this policy and provide, in writing, details of the policy to their flight crewmembers, including the administrative implications of fatigue calls.

Proposed Completion Date: FAA action for part 121 operators will be complete in FY 2012. A proposed completion date for parts 135 and 91K operators has not yet been determined.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA continues to follow its strategic approach to address fatigue. On June 24, 2009, the FAA chartered the Flight and Duty Time Limitations and Rest Requirements ARC. On September 10, 2009, the ARC submitted its final report with recommendations to the FAA Administrator. On August 1, 2010, P.L. 111-216 was signed into law requiring a Fatigue Risk Management Plan (FRMP), which incorporates fatigue policy for all part 121 operators.

Acting on the ARC's recommendations and complying with the P.L., the FAA published the Flightcrew Member Duty and Rest Requirements NPRM on September 14, 2010. The FAA is proposing to amend its existing flight, duty, and rest regulations applicable to part 121 certificate holders and their flightcrew members in this NPRM. The FAA anticipates a final rule in November 2011. Additionally, the FAA is evaluating the appropriateness of extending this regulatory framework to parts 135 and 91K operations.

To supplement these rulemaking efforts, the FAA issued one SAFO and two InFOs pertaining to fatigue:

- SAFO 09014, Concepts for Fatigue Countermeasures in Part 121 and 135 Short-Haul Operations, was issued on September 11, 2009;
- InFO 10013, Fatigue Risk Management Plans (FRMP) for Part 121 Air Carriers – Part One, was issued on August 12, 2010; and
- InFO 10017, Fatigue Risk Management Plans (FRMP) for Part 121 Air Carriers – Part Two, was issued on August 19, 2010.

Also, the FAA issued three fatigue related draft ACs that closed for public comment on November 15, 2010:

- AC 121-31A, Flightcrew Rest Facilities;
- AC 120-FT, Fatigue Training; and
- AC 120-FIT, Fitness for Duty.

Previously Missed Deadline(s): The Flightcrew Member Duty and Rest Requirements final rule was scheduled to be published in August 2011 as outlined in P.L. 111-216. The final rule is currently scheduled to be published in November 2011.

A-08-40. Emphasize with principal operations inspectors the importance of conducting timely postaccident drug and alcohol testing.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA included new questions and answers in the “Frequently Asked Questions” section of its website to raise employer awareness regarding post accident drug and alcohol testing requirements. A revision to FSIMS will incorporate policy from a draft notice. The FAA anticipates publication of the draft notice in FY 2012.

Previously Missed Deadline(s): N/A

A-08-45. Develop and use a methodology that will continually assess the effectiveness of fatigue management systems implemented by operators, including their ability to improve sleep and alertness, mitigate performance errors, and prevent incidents and accidents.

Completion Date: August 19, 2010

DOT Status: AC✓

NTSB Status: OAA (January 11, 2011)

Implementation Description: In response to P.L. 111-216, § 212(b), the FAA issued InFO 10013, Fatigue Risk Management Plans (FRMP) for Part 121 Air Carriers – Part One, on August 12, 2010. On August 19, 2010, the FAA also issued InFO 10017, Fatigue Risk Management Plans (FRMP) for Part 121 Air Carriers – Part Two, and an applicable checklist detailing guidance on how to develop and implement their FRMP. Contained within this guidance are scientific and data-driven approaches to FRMP development such as AC 120-100, Basics of Aviation Fatigue, issued on June 7, 2010, and AC 120-103, Fatigue Risk Management Systems for Aviation Safety, issued August 3, 2010. Once the air carrier has developed their FRMP, the air carrier must submit their FRMP to the FAA for review and acceptance.

The FRMP is a plan that is developed and implemented by the air carrier detailing how they will manage and mitigate potential fatigue in day-to-day operations within the current regulatory structure to improve flightcrew alertness and reduce performance errors. Each part 121 air carrier must develop, implement, and update their FRMP based upon the guidance contained in InFO 10017 and the supplemental checklist.

Two essential components of the FRMP are the fatigue education and awareness training requirement and the FRMP evaluation program, which is a method for continually assessing the effectiveness of the required training and the overall FRMP. Once accepted by the FAA, the air carrier must comply with their FRMP. Acceptance of an air carrier's FRMP will be signified by the FAA issuing Operation Specification A317 to the air carrier. At a minimum, every 24 months, each air carrier is responsible for updating and resubmitting their FRMP for review and acceptance.

Previously Missed Deadline(s): N/A

A-08-82. Determine the extent of the problem of engine fan cowl separations on all airplanes and, should a widespread problem exist for any airplanes, require operators of those airplanes to include a dual inspection signoff in their maintenance procedures to confirm that engine fan cowls are latched after completing any engine maintenance that involves the opening of an engine fan cowl.

Completion Date: March 24, 2011

DOT Status: AC✓

NTSB Status: OAA (July 31, 2009)

Implementation Description: The FAA reviewed several databases with data from 2000 through 2010 to determine the extent of the engine-fan cowl separation problem. The FAA's original assertion that all aircraft models were affected was incorrect. Statistics do not indicate that a widespread problem exists in the industry. The review of incidents found in Service Difficulty Reports, Accident Incident Database System, Aviation Safety Information Analysis and Sharing System, and Safety Performance Analysis System consist primarily of the Airbus Single Aisle A-319-132 and Bombardier CL-600-2B19 model airplanes, as indicated in the Board's letter dated October 10, 2008. The FAA continues to review various databases and has found no records indicating engine-fan cowl separation incidents due to improper latching since August 2008.

Airbus reviewed the design of engine-fan cowl latches on certain A319, 320 and 321 aircraft and developed modifications that the FAA mandated by Airworthiness Directive (AD) 2003-18-06, Airbus. While these modifications cannot prevent improper or incomplete latching of the engine-fan cowl, the modifications, recommended training programs, and recommended dual signatures in the aircraft log serve to mitigate the problem. Additionally, Bombardier reviewed their designs and maintenance manuals and determined that it was appropriate to include cautions to make sure that all fasteners are installed and a recommendation that operators utilize a dual sign-off procedure for nose access cowls. They included this in their Nose Access Cowls-Removal/Installation maintenance manual change on May 29, 2008.

Previously Missed Deadline(s): N/A

A-09-22. Require principal operations inspectors to review their operators' pilot guidance and training on task allocation and workload management during emergency situations to verify that they state that, to the extent practicable, the pilot running the checklists should not engage in additional nonessential operational tasks, such as radio communications.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OUA (April 2, 2010)

Implementation Description: Though not a requirement, the FAA is encouraging the recommended action. On April 6, 2009, prior to the issuance of this recommendation, the FAA published SAFO 09008, Proper Identification and Procedures During In-Flight Engine Failures. The SAFO emphasizes the importance of the emergency/abnormal checklist and that the crew should not interrupt the checklist for routine events until completing the checklist. Additionally, the FAA agreed to update the detailed section on aircraft checklists for parts 121 and 135 in FAA FSIMS, to reflect the intent of SAFO 09008.

Previously Missed Deadline(s): N/A

A-09-23. Require MD-80 series airplane operators to incorporate information about the relationship between the pneumatic crossfeed valve and the engine fire handle into their training programs and written guidance.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAAA

Implementation Description: On August 5, 2008, the FAA issued SAFO 08018, Fire Handle Characteristics, DC-9, MD-80, and MD-90 Airplanes. The FAA committed to issue a notice to its POIs to have them survey their operators to determine if the operators have voluntarily complied with SAFO 08018. Notice N 8900.145, Review of All DC-9 Series, MD-80 Series, and MD-90 Series Training Programs for Incorporation of SAFO 08018, was issued on January 11, 2011, to collect the data requested by the Board.

Previously Missed Deadline(s): N/A

A-09-24. Establish best practices for conducting both single and multiple emergency and abnormal situations training.

A-09-25. Once the best practices for both single and multiple emergency and abnormal situations training asked for in Safety Recommendation A-09-24 have been established, require that these best practices be incorporated into all operators' approved training programs.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: Training programs conducted under the FAA's AQP are already required to make use of scenario-based line operational evaluations (LOE), which incorporate content designed to test pilot integration of technical and crew resource management skills. While LOE scenarios are not designed to saturate a flight crew or impose an unrealistic level of difficulty or complexity, if a flight crew compounds an emergency by failing to accomplish a task or procedure satisfactorily, the instructor will allow additional problems that would logically result from the unsatisfactory accomplishment of the earlier task.

The FAA developed the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM, to require the inclusion of scenario-based training for all part 121 air carriers. The SNPRM was published for public comment on May 20, 2011. The FAA's intention is that such scenarios will be both operationally relevant and a test of the flight crew's decision-making skills and abilities to integrate and apply learned skills to unexpected circumstances. Data regarding the overall success and compliance of part 121 air carrier training programs are collected and evaluated on a regular basis using the Air Transportation Oversight System (ATOS) tools and procedures and will be expanded by the proposed Continuous Analysis Process, also included as a requirement in the referenced SNPRM. In addition, the FAA will review its existing and proposed regulatory and policy framework for part 121 pilot training to determine whether additional guidance or requirements are necessary.

Previously Missed Deadline(s): N/A

A-09-26. Require that operators provide pilots with guidance requiring that pilots and flight attendants actively monitor exit availability and configure the airplane and cabin for an evacuation when the airplane is stopped away from the gate after a significant event to help expedite an emergency evacuation if one becomes necessary.

Proposed Completion Date: December 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM was published on May 20, 2011. The SNPRM specifically requires flight attendant initial and recurrent training and evaluation regarding emergency situations, such as land and water evacuations. This training and evaluation includes recognition of the need for evacuation, crew communication and coordination, recognition of the importance of maintaining situational awareness, and the ability to anticipate and adapt as the emergency progresses. This also includes specific training for when an airplane is stopped away from the gate after a significant event, to ensure exits are armed and to actively monitor exit availability in case an emergency evacuation is necessary.

In addition, the draft AC that published with the SNPRM for comment, Flight Attendant Training and Evaluation, contains guidance that certificate holders should conduct flightcrew member and flight attendant crew resource management emergency scenarios together. When this is not possible, certificate holders should include information in flight attendant training that addresses the role of flightcrew members during emergency situations.

Previously Missed Deadline(s): The FAA originally anticipated publishing the SNPRM at the end of FY 2010. As a result of P.L. 111-216, additional changes were made to the SNPRM delaying its publication to May 20, 2011. The final rule is anticipated in 2012.

A-09-27. Revise Advisory Circular 120-48, "Communication and Coordination Between Flight Crewmembers and Flight Attendants," to update guidance and training provided to flight and cabin crews regarding communications during emergency and unusual situations to reflect current industry knowledge based on research and lessons learned from relevant accidents and incidents over the last 20 years.

Proposed Completion Date: Once the final rule is published for the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM, the FAA will then determine a schedule, including a proposed completion date, for the AC revision.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: A revision to AC 120-48 will be accomplished following the publication of a final rule to the Qualification, Service, and Use of Crewmembers and Aircraft Dispatchers SNPRM. The FAA anticipates publishing a final rule in FY 2012.

Previously Missed Deadline(s): The FAA originally anticipated publishing the SNPRM at the end of FY 2010. As a result of P.L. 111-216, additional changes were made to the SNPRM delaying its publication to May 20, 2011.

A-09-42. Once Boeing Airplane Company has revised its procedures and training per Safety Recommendation A-09-41 for addressing an illuminated Standby Bus Power OFF light without depleting the main battery, require all operators of 757/767 airplanes to adopt these procedures.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: Boeing published and completed distribution of procedural revisions and flight crew operations manual (FCOM) bulletins to all operators of the 757 and 767 fleets. Airplane cross-model differences resulted in several variations of the procedures, depending on specific customer airplane configurations. Boeing further submitted a redesign of the electrical system that precludes the loss of all electrical power, including the battery. The

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FAA expects to issue an AD mandating the electrical system modification by August 2012. The FAA will encourage operators to incorporate the FCOM guidance, as appropriate, until such time the design change becomes available and is installed.

Previously Missed Deadline(s): N/A

A-09-65. Issue interim guidance, such as an advisory circular, that provides operators of multisegment, short-haul flights with the relevant safety information as it becomes available during the research requested in Safety Recommendation A-09-64.

Completion Date: June 7, 2010

DOT Status: AC✓

NTSB Status: OAA (June 8, 2010)

Implementation Description: The FAA determined additional research into multisegment, short-haul flights was not necessary. However, the FAA issued guidance to address this recommendation. The FAA issued SAFO 09014, Concepts for Fatigue Countermeasures in Part 121 and 135 Short-Haul Operations, on September 11, 2009. The FAA also issued AC 120-100, The Basics of Aviation Fatigue, on June 7, 2010, which educates the aviation community from a scientific perspective regarding the effects of fatigue in aviation operations.

Previously Missed Deadline(s): N/A

A-09-71. Require operators to modify their takeoff and landing checklists to reflect the best practices identified as a result of the meeting recommended in Safety Recommendation A-09-70.

Proposed Completion Date: Before determining a proposed completion date, the FAA needs to evaluate the ARC's recommendations.

DOT Status: AIP

NTSB Status: OUA (November 29, 2010)

Implementation Description: Operators develop checklists based on the manufacturer's recommendations; the POI assigned to the operator approves the checklists. FSIMS and part 121 outline FAA inspector and crewmember responsibilities, respectively, regarding the adherence to checklists and the approval of checklists as it pertains to the operation of the airplane, including takeoff and landing phases.

In response to P.L. 111-216, the FAA charted the Training Hours Requirement Review ARC. This ARC partly develops best practices for air carriers to train procedures, takeoffs and landings, and crew coordination, which may address this recommendation. The FAA received the ARC's recommendations in May 2011 and provided a Report to Congress on the ARC report on September 26, 2011.

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To meet the intent of this recommendation through alternative action, the FAA will assess operators of large turbine airplanes to ensure their takeoff and landing checklists adequately reflect existing industry best practices to ensure proper takeoff and landing configuration.

Previously Missed Deadline(s): N/A

A-10-13. Issue an advisory circular with guidance on leadership training for upgrading captains at 14 Code of Federal Regulations Part 121, 135, and 91K operators, including methods and techniques for effective leadership; professional standards of conduct; strategies for briefing and debriefing; reinforcement and correction skills; and other knowledge, skills, and abilities that are critical for air carrier operations.

A-10-14. Require all 14 Code of Federal Regulations Part 121, 135, and 91K operators to provide a specific course on leadership training to their upgrading captains that is consistent with the advisory circular requested in Safety Recommendation A-10-13.

A-10-15. Develop, and distribute to all pilots, multimedia guidance materials on professionalism in aircraft operations that contain standards of performance for professionalism; best practices for sterile cockpit adherence; techniques for assessing and correcting pilot deviations; examples and scenarios; and a detailed review of accidents involving breakdowns in sterile cockpit and other procedures, including this accident. Obtain the input of operators and air carrier and general aviation pilot groups in the development and distribution of these guidance materials. (Supersedes Safety Recommendation A-07-8)

Proposed Completion Date: September 30, 2013

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The following is a list of actions on which the FAA is currently working to address pilot professionalism:

- In the June 15, 2009, Call to Action, the FAA committed to the development of airline mentoring programs to address professional standards and flight discipline;
- The Flight Crewmember Mentoring, Leadership and Professional Development ARC was established in September 2010 as a result of P.L. 111-216. ARC recommendations were provided to the FAA in November 2010;
- The Flight Crewmember Mentoring, Leadership and Professional Development NPRM was drafted and is currently in internal FAA coordination. NPRM publication is anticipated later this year; and
- An AC on mentoring, leadership, and professional development will also be written and published in the docket for public comment when the NPRM is published.

The FAA is currently focused on pilot mentoring and professionalism for part 121 operations. At this time, the FAA has not yet determined how it will address parts 135 and 91K.

Previously Missed Deadline(s): N/A

A-10-21. Direct 14 Code of Federal Regulations Part 121, 135, and 91K operators of airplanes equipped with a reference speeds switch or similar device to (1) develop procedures to establish that, during approach and landing, airspeed reference bugs are always matched to the position of the switch and (2) implement specific training to ensure that pilots demonstrate proficiency in this area.

Completion Date: April 29, 2011

DOT Status: AC✓

NTSB Status: OAA (January 25, 2011)

Implementation Description: The only airplane with a reference speed switch is the DHC-8-402. The FAA reviewed training curricula of the three operators of this airplane type, and the recommended action was completed. The FAA also reviewed its air carrier surveillance policies and confirmed that the appropriate use of the reference speed switch system is addressed in its existing surveillance programs. These surveillance programs will continue to monitor this issue.

Previously Missed Deadline(s): N/A

A-10-24. Define and codify minimum simulator model fidelity requirements to support an expanded set of stall recovery training requirements, including recovery from stalls that are fully developed. These simulator fidelity requirements should address areas such as required angle-of-attack and sideslip angle ranges, motion cueing, proof-of-match with post-stall flight test data, and warnings to indicate when the simulator flight envelope has been exceeded.

Proposed Completion Date: The FAA must first determine to what extent changes are necessary to the current part 60 stall model fidelity requirements prior to making a decision on rulemaking; therefore, the completion date of this recommendation has not been determined.

DOT Status: AIP

NTSB Status: OAA

Implementation Description:

- In December 2009, the Royal Aeronautical Society initiated an international working group, the ICATEE, to review the current state of aircraft upset training and provide solutions to improve such training. As part of this effort, the FAA led a technical sub-working group to develop technical simulator evaluation criteria to support full stall training tasks as

determined necessary by the training sub-group of ICATEE. The ICATEE proposed update to simulator requirements is anticipated in November 2011.

- In March 2010, an FAA/Industry Stall WG was convened. This group generated an AC for stall and stick pusher training, which contains an appendix including simulator checkout procedures for “approach to stall” tasks to support the existing regulatory requirements for a flight simulator training device (FSTD) stall maneuver evaluation. The AC is currently in internal FAA coordination.
- In September 2010, the FAA chartered the SPAW ARC as a result of P.L. 111-216. The SPAW ARC was chartered to develop recommendations to identify the best procedures and training practices that will enable air carrier pilots to accurately and consistently respond to unexpected stick pusher activations, icing conditions, and microburst and windshear events. The SPAW ARC looked at simulator evaluation criteria and made recommendations to the FAA in this area. The final SPAW ARC recommendations were provided to the FAA in July 2011. The FAA will take the SPAW ARC recommendations and provide a separate report to Congress and the Board by December 2011, as mandated by P.L. 111-216.

Previously Missed Deadline(s): N/A

A-10-25. Identify which airplanes operated under 14 Code of Federal Regulations Part 121, 135, and 91K are susceptible to tailplane stalls and then (1) require operators of those airplanes to provide an appropriate airplane-specific tailplane stall recovery procedure in their training manuals and company procedures and (2) direct operators of those airplanes that are not susceptible to tailplane stalls to ensure that training and company guidance for the airplanes explicitly states this lack of susceptibility and contains no references to tailplane stall recovery procedures.

Proposed Completion Date: With multiple evaluations and reviews being conducted as a result of this recommendation, the FAA has not yet determined a proposed completion date.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: Since 1994, FAA airworthiness policy has been to evaluate all new part 23 and part 25 aircraft to ensure they are not susceptible to ice-contaminated tailplane stall (ICTS), which was codified in part 25 in 2007. The charter for a part 23 icing ARC was approved on February 19, 2010. One of the tasks assigned to the ARC is to recommend part 23 regulations that will codify the part 23 certification guidance on ICTS susceptibility.

The FAA conducted an ICTS evaluation of existing airplanes, certified prior to 1994, with unpowered flight control systems, of which many are equipped with pneumatic deicing boots, operating under parts 121 or 135 operating rules. The FAA mandated changes through ADs to improve tailplane stall margins for airplanes found to be susceptible.

At the time the FAA conducted the ICTS evaluation, part 91K did not exist. However, many, if not all, of the candidate airplanes currently operating under 91K were included in the evaluation of airplanes operating under parts 121 and 135. The FAA is currently conducting a gap analysis to determine if there are airplanes operating under part 91K that were not included in the earlier evaluation that may be susceptible to ICTS.

The FAA will also review current regulations, policy, and guidance on stall recovery training for inspectors and pilots. The FAA will specifically focus on what tailplane stall recovery training material is being presented to pilots, to ensure it is aircraft appropriate, and make changes as necessary.

Previously Missed Deadline(s): N/A

A-10-27. Require all 14 Code of Federal Regulations Part 121, 135, and 91K operators to (1) develop and implement flight operational quality assurance programs that collect objective flight data, (2) analyze these data and implement corrective actions to identified systems safety issues, and (3) share the deidentified aggregate data generated through these analyses with other interested parties in the aviation industry through appropriate means.

A-10-29. Require 14 Code of Federal Regulations Part 121, 135, and 91K operators to (1) routinely download and analyze all available sources of safety information, as part of their flight operational quality assurance program, to identify deviations from established norms and procedures; (2) provide appropriate protections to ensure the confidentiality of the deidentified aggregate data; and (3) ensure that this information is used for safety-related and not punitive purposes.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA recognizes the benefits of Flight Operational Quality Assurance (FOQA) programs and plans to fully adopt this recommendation through alternative action for part 121 operators. The FAA will continue to encourage part 135 and fractional operators to adopt FOQA programs. Given that virtually all major passenger carrying US airlines, and a significant number of larger regional airlines, already comply on a voluntary basis with the provisions of this recommendation, the FAA believes that mandating FOQA would not only fail to result in an enhanced benefit to public safety, it could actually diminish the effectiveness of FOQA programs presently in place.

However, P.L. 111-216 includes two sections that require FAA action applicable to this recommendation. Section 214 required the FAA to develop and implement a plan to facilitate the establishment of an Aviation Safety Action Program (ASAP) and FOQA programs for all part 121 operators. The FAA provided its plan in a report to Congress on April 14, 2011.

Section 215 requires the FAA to conduct rulemaking to require all part 121 air carriers to implement a SMS. The rulemaking must consider, at a minimum, an ASAP program, FOQA program, a Line Operations Safety Audit (LOSA), and an AQP as part of the SMS. The Safety Management Systems for Part 121 Certificate Holders NPRM was published for comment on November 5, 2010. The comment period has since closed and the FAA anticipates a final rule in FY 2012.

Although, FOQA is an excellent tool for some air carriers and may be used as a process or procedure in the air carrier's SMS, the FAA does not intend to require it for all certificate holders conducting operations under part 121. There are a number of ways to collect this information, and the FAA does not believe it is appropriate to prescribe the exact method for collection and analysis of this type of data. The air carrier should develop and implement the processes and procedures suitable to the complexity and needs of its organization to identify hazards and assess risk to its operation. In addition, the FAA determined that it is appropriate to protect certain information collected under FOQA from disclosure. If the FAA were to require FOQA, this protection would be lost.

Previously Missed Deadline(s): N/A

A-10-28. Seek specific statutory and/or regulatory authority to protect data that operators share with the Federal Aviation Administration as part of any flight operational quality assurance program.

Proposed Completion Date: The FAA is not able to determine a proposed completion date at this time because it is based on how long it takes for the additional statutory protections to be put in place.

DOT Status: AIP

NTSB Status: OUA (January 25, 2011)

Implementation Description: Statutory and regulatory protections have been established for safety related data that is voluntarily submitted to the FAA, which includes FOQA information. Under Title 49 of the United States Code (USC) section 40123, the FAA was provided with the statutory authority to protect such information from disclosure to the public, including disclosure under the Freedom of Information Act (FOIA) (5 USC section 552). The FAA codified this protection under part 193. Protection from public release of such FOQA information under FOIA is specified in FAA Order 8000.81, Designation of FOQA Info as Protected From Public Disclosure Under 14 CFR Part 193, issued on April 14, 2003. Protection from use of such FOQA information, as evidence in an FAA enforcement action, is specified in § 13.401. This protection only applies to voluntarily submitted safety-related data, such as the FOQA information that is presently being submitted by airlines to the FAA's aviation safety analysis and sharing program. In addition, as a result of P.L. 111-216, the FAA is seeking additional protections for FOQA data that operators voluntarily collect but provide as part of a required SMS program.

Previously Missed Deadline(s): N/A

A-10-30. Require 14 Code of Federal Regulations Part 121, 135, and 91K operators to incorporate explicit guidance to pilots, including checklist reminders as appropriate, prohibiting the use of personal portable electronic devices on the flight deck.

Completion Date: June 22, 2010

DOT Status: AC*

NTSB Status: OAAA (January 25, 2011)

Implementation Description: As an alternative action to meeting the intent of this recommendation, the FAA issued InFO 10003, Cockpit Distractions, on April 26, 2010. This InFO was published to emphasize to crewmembers and operators that engaging in tasks not directly related to required flight duties, including using a personal electronic device (PED), constitutes a safety risk. The FAA advised operators to create a safety culture that clearly establishes guidance, expectations, and requirements to control cockpit distractions, including the use of PEDs, during flight operations.

Previously Missed Deadline(s): N/A

A-10-32. Require 14 Code of Federal Regulations Part 121, 135, and 91K operators to revise the methodology for programming their adverse weather phenomena reporting and forecasting subsystems so that the subsystem-generated weather document for each flight contains all pertinent weather information, including Airmen's Meteorological Information, Significant Meteorological Information, and other National Weather Service in-flight weather advisories, and omits weather information that is no longer valid.

A-10-33. Require principal operations inspectors of 14 Code of Federal Regulations Part 121, 135, and 91K operators to periodically review the weather documents generated for their carriers to verify that those documents are consistent with the information requested in Safety Recommendation A-10-32.

Proposed Completion Date: September 30, 2013

DOT Status: AIP

NTSB Status: OAA

Implementation Description: Currently, there is no regulatory requirement for parts 121 Supplemental, 135, and 91K operators to have an adverse weather phenomena reporting and forecasting system/subsystem. However, the FAA has policy guidance in FSIMS that is applicable to parts 121, 135, and 91K. Based on the FAA's evaluation of this guidance, it has determined changes are necessary and is currently working on those revisions to meet the intent of this recommendation. The FAA anticipates publication of the revisions in FY 2013.

Previously Missed Deadline(s): N/A

A-10-34. Update the definitions for reportable icing intensities in the Aeronautical Information Manual so that the definitions are consistent with the more detailed intensities defined in Advisory Circular 91-74A, "Pilot Guide: Flight in Icing Conditions."

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA completed the draft revisions to the guidance as recommended. The draft revisions are in internal coordination. Upon clearance, the revisions will be forwarded to the Air Traffic Organization (ATO) to be incorporated into the next revision of the Aeronautical Information Manual (AIM).

Previously Missed Deadline(s): N/A

A-10-46. Provide pilots and maintenance personnel with information that (1) transport-category aircraft tires can lose up to 5 percent pressure per day, (2) it may take only a few days for such tires to reach an underinflation level below what the aircraft maintenance manual specifies for tire replacement, and (3) the underinflation level that would require tire replacement is not visually detectable.

Completion Date: May 23, 2011

DOT Status: AC✓

NTSB Status: OAAA (January 13, 2011)

Implementation Description: The FAA issued SAFO 11001, The Importance of Properly Inflated Aircraft Tires, on January 6, 2011. This SAFO stresses the importance of ensuring properly inflated tires and the potential consequences that improper tire pressure can have on the performance of aircraft operations during taxi, takeoff, and landing. The SAFO also specifically addresses the three issues cited in this recommendation.

The intent of this SAFO is to ensure appropriate personnel are made aware of the importance of proper tire pressures, appropriately calibrated tire pressure gauges, servicing safety precautions, and maintenance manual tire pressure interval checks to ensure proper tire pressure is accurately maintained. The FAA also recommends that any individual associated with the operation of aircraft under parts 121, 125, 129, 135 and 91K, including those who perform servicing and maintenance functions at a certificated or non-certificated repair facility (maintenance providers), make certain their procedures ensure tire pressure checks frequent enough so that tires remain inflated to within the maintenance manual-specified inflation range.

Previously Missed Deadline(s): N/A

A-10-81. Require 14 Code of Federal Regulations Part 121, Part 135, and Part 91 Subpart K operators to provide information about life lines, if the airplane is equipped with them, to passengers to ensure that the life lines can be quickly and effectively retrieved and used.

Proposed Completion Date: September 30, 2014

DOT Status: AIP

NTSB Status: OAA

Implementation Description: Following completion of the research being conducted by CAMI, which is described in SR A-10-86, the FAA plans to revise AC 121-24C, Passenger Safety Information Briefing and Briefing Cards. The FAA will also include guidance for incorporating life line information into passenger briefings and briefing cards.

Previously Missed Deadline(s): N/A

A-10-86. Conduct research on, and require 14 Code of Federal Regulations Part 121, Part 135, and Part 91 Subpart K operators to implement, creative and effective methods of overcoming passengers' inattention and providing them with safety information.

Proposed Completion Date: The final phases of the planned research have not been funded since the FAA is unable to determine a proposed completion date at this time. The FAA does know it will be beyond FY 2012 based on the current research timeline.

DOT Status: AIP

NTSB Status: OAR

Implementation Description:

- In September 2008, CAMI published Effective Presentation Media for Passenger Safety 1: Comprehension of Briefing Card Pictorials and Pictograms (DOT/FAA/AM-08/20). This study addresses the current state of the art for airline safety briefing cards and was motivated, in part, by the Board's recommendations and research results demonstrating that passenger attention to safety information is waning.
- In September 2009, Cynthia L. Corbett and Mac McLean, Ph.D., researchers and authors of the September 2008 CAMI study mentioned above, delivered a presentation at the FAA Aviation Safety Inspector Standardization Conference. POIs and aviation cabin safety inspectors in attendance were encouraged to use the research data from this study to enhance the safety briefing design assessments.
- CAMI is collecting and performing analysis on data from Part II of the above mentioned study to determine the best method of presenting passenger safety education. Part II of the study is projected to be published in late 2012; the office is looking for funding for Part III.

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- Once Part II is published, the FAA plans to revise AC 121-24C, Passenger Safety Information Briefing and Briefing Cards, to reflect the latest results and recommendations.
- The FAA plans to publish an InFO to increase awareness of the CAMI study results and the importance of creative and effective safety information delivery. The FAA anticipates publication by the end of FY 2011.
- The FAA is also a member of the international Cabin Safety Research Technical Group (CSRTG), whose goal is to enhance the effectiveness and timeliness of cabin safety research. Since 1995, the CSRTG has organized a Triennial International Aircraft Fire and Cabin Safety Research Conference. The sixth conference was held in October 2010 and passenger safety awareness research was presented.

Previously Missed Deadline(s): N/A

A-10-96. Require that mechanics performing required inspection item and other critical tasks receive on-the-job training or supervision when completing the maintenance task until the mechanic demonstrates proficiency in the task.

A-10-97. Require that required inspection item (RII) inspectors receive supervision or on-the-job training on the proper inspection of RII items until the inspector demonstrates proficiency in inspection.

Completion Date: May 6, 2011

DOT Status: AC✓

NTSB Status: OAR (February 28, 2011)

Implementation Description: Currently, multiple regulations exist that pertain to the accomplishment and inspection of required inspection items (RII). Section 121.363, Responsibility for Airworthiness, states:

(a) Each certificate holder is primarily responsible for: (1) the airworthiness of its aircraft, including airframes, aircraft engines, propellers, appliances, and parts thereof; and (2) the performance of the maintenance, preventive maintenance, and alteration of its aircraft, including airframes, aircraft engines, propellers, appliances, emergency equipment, and parts thereof, in accordance with its manual and the regulations of this chapter.

Additionally, the sections below address RII:

- § 121.365, Maintenance, Preventive Maintenance, and Alteration Organization;
- § 121.367, Maintenance, Preventive Maintenance, and Alteration Programs;
- § 121.369, Manual Requirements; and
- § 121.371, Required Inspection Personnel.

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The FAA recently revised several chapters of FSIMS to provide additional guidance to FAA Airworthiness Inspectors and operators. FSIMS, Volume 3, Chapter 43, Evaluate a Continuous Airworthiness Maintenance Program, and Chapter 44, Assess Continuing Analysis and Surveillance System for Parts 121 and 135, provide expectations for what should be included in an operator's maintenance program, which includes training programs. FSIMS, Chapter 43, in particular, addresses personnel training requirements, which include initial training, recurrent training, specialized training, maintenance provider training, and competency training.

In conjunction with responses to SRs A-04-11, -15 and -16, the FAA initiated a rulemaking project to address part 121 carriers' training programs, including OJT.

Previously Missed Deadline(s): N/A

A-10-115. Work with U.S. airline operators to review and analyze operational flight data to identify factors that contribute to encounters with excessive winds and use this information to develop and implement additional strategies for reducing the likelihood of wind-related runway excursions.

Proposed Completion Date: Once a plan to accomplish the recommended action has been developed, a proposed completion date can be determined.

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA is working with industry to determine what data can be used to accomplish the recommended action and what mechanisms are available to collect and utilize that information.

Previously Missed Deadline(s): N/A

A-96-56. Revise the icing certification testing regulation to ensure that airplanes are properly tested for all conditions in which they are authorized to operate, or are otherwise shown to be capable of safe flight into such conditions. If safe operations cannot be demonstrated by the manufacturer, operational limitations should be imposed to prohibit flight in such conditions and flightcrews should be provided with the means to positively determine when they are in icing conditions that exceed the limits for aircraft certification.

Proposed Completion Date: July 31, 2014

DOT Status: AIP

NTSB Status: OUA (April 27, 2010)

Implementation Description: Beginning in January 1996, the FAA issued over 40 ADs for airplanes most susceptible to icing conditions. The ADs require AFM procedures that provide a means for the flight crews to recognize that they are in icing conditions that exceed the limits for aircraft certification and safely exit. In August 2007, the FAA published Amendment 25-121, Airplane Performance and Handling Qualities in Icing Conditions, which added performance and handling requirements for flight in icing conditions. Also, in December 2009, the FAA published Amendment 25-129, Activation of Ice Protection, which added requirements for activation of the ice protection equipment.

On November 23, 2009, the FAA published the Part 121 Activation of Ice Protection NPRM. The final rule was published on August 22, 2011. On June 29, 2010, the FAA published the Airplane and Engine Certification Requirements in Supercooled Large Drop, Mixed Phase, and Ice Crystal Icing Conditions NPRM for transport category airplanes. The FAA anticipates issuing the final rule by Spring 2012. The FAA intends to publish an NPRM by December 2012 to address procedures for flight crews to positively identify they are in icing conditions, which exceed the limits for aircraft certification, and safely exit. The final rule is expected by July 2014.

Previously Missed Deadline(s): N/A

A-99-22. Ensure that future transport-category airplanes certificated by the Federal Aviation Administration provide a reliably redundant rudder actuation system.

Proposed Completion Date: June 30, 2014

DOT Status: AIP

NTSB Status: OUA (February 16, 2011)

Implementation Description: The FAA is applying the intent of the recommendation on current airplane certification programs using issue papers. The FAA is also developing rulemaking to fully address and close this recommendation, and it estimates issuance of the relevant NPRM by December 2012 and publication of the final rule by June 2014.

Previously Missed Deadline(s): N/A

A-00-91. Document the extent of false indications for cargo smoke detectors on all airplanes and improve the reliability of the detectors.

Proposed Completion Date: December 31, 2016

DOT Status: AIP

NTSB Status: OAA

Implementation Description: In June 2000, the FAA published a report, Aircraft Cargo Compartment Smoke Detector Alarm Incidents on U.S. Registered Aircraft, 1974-1999, on the number of cargo compartment false alarms. The FAA also conducted research to develop more reliable aircraft smoke and fire detection systems and to reduce the cargo compartment false alarm rate. In March 2011, the FAA tasked the Society of Automotive Engineers (SAE) to develop a revision to the performance standards for the detectors to include further testing in dust/dirt and high humidity environments, as reports show that most false alarms are caused by dust and dirt particles that accumulate in the cargo compartments. SAE is expected to complete this task by December 31, 2016.

The FAA will update the Minimum Performance Standards (MPS) of TSO-C1d, Cargo Compartment Fire Detection Instruments, issued on August 19, 2004, after the revision of AS 8036, Cargo Compartment Fire Detection Instruments, by SAE. Because the task has been assigned to SAE, the FAA intends to describe this recommendation as complete in its next correspondence to the Board.

Previously Missed Deadline(s): N/A

A-00-102. Conduct a study to determine if landing gear vertical overload fusing offers a higher level of safety than when the gear is overdesigned. If fusing offers a higher level of safety, revise 14 Code of Federal Regulations Part 25 to require vertical overload fusing of landing gear.

Proposed Completion Date: June 30, 2014

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The intent of the SR has already been met; current regulations do require “fusing” rather than over-designing the landing gear. The FAA is currently developing rulemaking that will clarify the relevant regulations and guidance material. The FAA estimates issuance of the relevant NPRM by June 2013 and publication of the final rule by June 2014.

Previously Missed Deadline(s): N/A

A-00-103. Require manufacturers of 14 Code of Federal Regulations Part 23 and Part 25 airplanes and Part 121 operators to revise their hard landing inspection and reporting criteria to account for all factors that can contribute to structural damage; instruct principal maintenance and operations inspectors assigned to Part 121 operators to ensure that these changes have been made to operator maintenance manuals and Flight Operations Quality Assurance exceedance monitoring programs.

Next Major Milestone Date: December 31, 2011

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA worked with industry to develop the Best Practices Guide – Inspection Processes following High Load Events. This best practices guide (BPG) establishes a standard by which inspection processes should be developed for all high-load events, not just hard landings. The FAA also asked certain transport category airplane manufacturers to evaluate their maintenance manuals against the recommendations put together by the BPG WG. The FAA expects to complete its review of the updated maintenance manuals by December 2011.

Previously Missed Deadline(s): N/A

A-02-50. Modify the certification regulations, policies, or procedures to ensure that new horizontal stabilizer trim control system designs are not certified if they have a single-point catastrophic failure mode, regardless of whether any element of that system is considered structure rather than system or is otherwise considered exempt from certification standards for systems.

Proposed Completion Date: December 31, 2011

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The intent of the recommendation is already being met on current airplane programs; current regulations require that no single failure can cause loss of the airplane. However, the FAA is developing a policy memorandum to further clarify this requirement. The FAA estimates issuance of the final policy memorandum by December 2011.

Previously Missed Deadline(s): N/A

A-02-51. Review and revise aircraft certification regulations and associated guidance applicable to the certification of transport-category airplanes to ensure that wear-related failures are fully considered and addressed so that, to the maximum extent possible, they will not be catastrophic.

Proposed Completion Date: June 30, 2014

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The intent of the recommendation is already being considered on current airplane certification programs. Additionally, the FAA is developing rulemaking and guidance to fully address and close the recommendation. The FAA estimates issuance of the relevant NPRM and related guidance material by December 2012, and publication of the final rule by June 2014.

Previously Missed Deadline(s): N/A

A-03-41. Require all manufacturers of transport-category airplanes to review and, if necessary, revise their maintenance manual inspection criteria for severe turbulence and extreme in-flight maneuvers to ensure that loads resulting from positive and negative vertical accelerations, as well as lateral accelerations, are adequately addressed.

Next Major Milestone Date: December 31, 2011

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA worked with industry to develop the Best Practices Guide – Inspection Processes following High Load Events. This BPG establishes a standard by which inspection processes should be developed for all high-load events, not just hard landings. The FAA also asked certain transport category airplane manufacturers to evaluate their maintenance manuals against the recommendations put together by the BPG WG. The FAA expects to complete its review of the updated maintenance manuals by December 2011.

Previously Missed Deadline(s): N/A

A-03-50. Require that within 2 years, all Airbus A300-600/A310 and Boeing 747-400 airplanes and any other aircraft that may be identified as recording filtered data be retrofitted with a flight data recorder system capable of recording values that meet the accuracy requirements through the full dynamic range of each parameter at a frequency sufficient to determine a complete, accurate, and unambiguous time history of parameter activity, with emphasis on capturing each parameter's dynamic motion at the maximum rate possible, including reversals of direction at the maximum rate possible.

Completion Date: August 1, 2010

DOT Status: AC*

NTSB Status: CUA (April 4, 2011)

Implementation Description: Previously, the FAA stated that the Digital Flight Data Recorder (DFDR) should not record filtered data for critical parameters, including flight control input positions, surface positions, and input forces. However, comments to the Filtered Flight Data NPRM, which was published on November 15, 2006, and changes in available technology, caused the FAA to reexamine its position on data filtering. In the Filtered Flight Data SNPRM, published on August 15, 2008, the FAA proposed that certain critical data parameters may be filtered if a certificate holder can show that the data can be accurately reconstructed. This proposed rule would improve the integrity and quality of the data recorded on DFDRs while giving aircraft designers and operators more flexibility in system design and operation where allowable, including an option to filter data.

The Filtered Flight Data Final Rule became effective on April 20, 2010. This rule adds new requirements to §§ 121.346, 125.228, and 135.156, and amends the introductory language of appendices M of part 121, E of part 125, and F of part 135. The final rule language states that any parameter may be filtered as long as the recoded value meets all the accuracy requirements of the applicable appendix. In addition, the rule identifies eight flight control parameters critical to accident investigation. For these parameters, the final rule allows the aircraft DFDR to record accurate unfiltered data, record accurate filtered data, or record filtered data that can be reconstructed to recover the original, unfiltered sensor signal values which meet the required accuracy specifications. A critical parameter that fails to meet the requirements of the applicable appendix, for any reason other than filtering, and cannot be rectified by reconstruction is not allowed under any part of the regulation. Additionally, the FAA published guidance material in AC 20-141B, Airworthiness and Operational Approval of Digital Flight Data Recorder Systems, dated August 17, 2010, to expand on terms, discuss the scope, and provide information to operators on how to comply with the final rule.

Previously Missed Deadline(s): N/A

A-04-58. Review the options for modifying the Airbus A300-600 and the Airbus A310 to provide increased protection from potentially hazardous rudder pedal inputs at high airspeeds and, on the basis of this review, require modifications to the A300-600 and A310 to provide increased protection from potentially hazardous rudder pedal inputs at high airspeeds.

Proposed Completion Date: May 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On July 27, 2010, Airbus provided the FAA with a proposal recommending visual and aural warnings instead of a rudder travel limiter system. These warnings would be activated in certain cases where the pilot reverses the rudder pedals and would direct the pilot to release the rudder pedals. The FAA is reviewing this new design proposal to assess its expected efficacy and to determine whether or not it adequately addresses the safety concerns. The FAA released the AD; Airbus Model A300 B4-600, B4-600R, and F4-600R Series Airplanes, and Model C4-605R Variant F Airplanes (Collectively Called

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A300-600 Series Airplanes); and Model A310 Series Airplanes NPRM, on May 19, 2011, mandating design changes to address the safety concern using a method the FAA approves. The NPRM will be followed by an AD after public comment.

Previously Missed Deadline(s): N/A

A-04-60. Amend all relevant regulatory and advisory materials to clarify that operating at or below maneuvering speed does not provide structural protection against multiple full control inputs in one axis or full control inputs in more than one axis at the same time.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA worked with airplane manufacturers to revise AFMs of all major U.S. transport category airplanes to clarify that operating at or below maneuvering speed does not provide structural protection against multiple full control inputs in one axis or full control inputs in more than one axis at the same time. The FAA also amended part 25 (Amendment 25-130) to require the clarification noted above for AFMs for all future transport category airplanes, which was issued on August 8, 2010 and published on October 4, 2010.

On January 18, 2011, the FAA published SAIB CE-11-17, Instruments, to clarify the meaning and use of maneuvering speed for operators of small transport category airplanes. The FAA also issued AC 61-67C, Stall and Spin Awareness Training, on September 20, 2007, and the Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25) on December 6, 2010. Finally, the FAA plans to revise the Airplane Flying Handbook and Glider Flying Handbook during FY 2011, and AC 25.1581-1, Airplane Flight Manual, at the end of FY 2012.

Previously Missed Deadline(s): N/A

A-06-36. Compile a list of safety-critical systems derived from the safety assessment process for each type certification project, and place in the official type certification project file the documentation for the rationale, analysis methods, failure scenarios, supporting evidence, and associated issue papers used to identify and assess safety-critical systems.

Proposed Completion Date: May 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: Following its August 17, 2006 response, the FAA forwarded a copy of the Key Safety Information (KSI) team's white paper to the Board. In October 2007, the CAST approved an activity to ensure that maintenance processes maintain the certified design level of safety for the operational life of the airplane as a follow on to KSI. This activity is

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identified as Safety Enhancement (SE) 172. SE 172 began its work in September 2009 and plans to address concerns that there may be gaps in the governing maintenance processes that could inhibit the intended design level of safety from being sustained throughout an airplane's life. This team reviewed the overarching processes that govern maintenance to determine if such gaps exist within or between these processes and to recommend solutions to address any gaps discovered. The FAA plans to publish a KSI AC fully coordinated with the findings of the SE 172 team. The draft AC is currently in development and is expected to be published by December 2011.

Previously Missed Deadline(s): N/A

A-06-37. Amend the advisory materials associated with 14 Code of Federal Regulations 25.1309 to include consideration of structural failures and human airplane system interaction failures in the assessment of safety-critical systems.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OUA (October 27, 2009)

Implementation Description: On June 21, 2007, the FAA published AC 25-11A, Electronic Flight Deck Displays, which provides general guidance for the design, installation, integration, and approval of electronic flight deck displays, components, and systems installed in transport category airplanes along with safety aspects and human performance. In January 2011, the FAA issued § 25.1322, Flight Crew Alerting, and its associated advisory materials. The final rule enhances flight crew alerting standards by updating definitions, prioritization, color requirements, and performance for flight crew alerting to reflect changes in technology and functionality.

In 2010, the FAA released a draft policy for public comment specifying that structural failures must be included in the system safety analysis. The FAA is currently finalizing the policy based on comments received, including those from the Board. The FAA's anticipated completion date is December 2011. On February 3, 2011, the FAA published an NPRM for § 25.1302, Installed Systems and Equipment for Use by the Flightcrew. If adopted as drafted, this rulemaking will provide requirements and guidance for the design and evaluation of controls, displays, system behavior, and system integrations, as well as design guidance for error management of installed equipment intended for flight crewmember use. The FAA's anticipated completion date for the final rule is September 2012.

Previously Missed Deadline(s): N/A

A-06-38. Adopt Society of Automotive Engineers ARP5150 into 14 Code of Federal Regulations Parts 21, 25, 33, and 121 to require a program for the monitoring and ongoing assessment of safety-critical systems throughout the life cycle of the airplane. Safety-critical

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systems will be identified as a result of A-06-36. Once in place, use this program to validate that the underlying assumptions made during design and type certification about safety-critical systems are consistent with operational experience, lessons learned, and new knowledge.

Proposed Completion Date: May 31, 2012

DOT Status: AIP

NTSB Status: OUA (October 27, 2009)

Implementation Description: The FAA implemented plans to address this recommendation through the adoption of a standardized process for identifying the data necessary for effective continued operational safety (COS) oversight for each product. Through the implementation of SMS, the FAA expects to increase its ability to provide an ongoing assessment of safety-critical systems throughout the life cycle of the airplane.

Within the FAA's Aircraft Certification Service (AIR), Monitor Safety Analyze Data (MSAD) is the overarching process by which the FAA will monitor and assess safety critical systems. MSAD works in coordination with processes and programs to monitor the operational fleet. Goals for MSAD maturation are:

1. Facilitation of standardized COS management by a process to quantify risks and apply resources to the largest contributors;
2. Inclusion of a standard operating procedure for monitoring AD implementation;
3. Increased utilization of "root cause" process for more in-depth study of fundamental causes, application of corrective actions at the level of the most fundamental identifiable cause(s), and follow on investigation of the impacts of any corrective actions; and
4. Allow periodic cross issue analyses across multiple fleets to identify common fundamental causes or trends.

The FAA believes that the intent of this recommendation will be satisfied for transport airplanes through the overarching process of MSAD, by guidance in AC 39-8, Continued Airworthiness Assessments of Powerplant and Auxiliary Power Unit Installations of Transport Category Airplane, and AIR's policy for managing COS.

Previously Missed Deadline(s): N/A

A-06-49. Require the installation of modified stall protection logic in Saab SF340 series airplanes certified for flight into known icing conditions.

Proposed Completion Date: December 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA is working with the European Aviation Safety Agency (EASA) and Saab to design the stall warning modification. The design and approval processes

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were completed in August 2011. EASA is mandating the modification, and the FAA intends to issue a corresponding AD in 2012.

Previously Missed Deadline(s): N/A

A-06-73. Review the design of turbine-powered engines (other than the CF34-1 and CF34-3, which are addressed in Safety Recommendation A-06-70) to determine whether they are susceptible to core lock and, for those engines so identified, require manufacturers of airplanes equipped with these engines to perform high power, high altitude sudden engine shutdowns and determine the minimum airspeed to maintain sufficient core rotation so that all methods of in-flight restart can be accomplished.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA issued a draft policy on rotor-lock screening. Currently, the FAA is considering significant industry comments to the draft policy. The FAA will revise the draft policy accordingly and reissue it for public comment in FY 2011. Final policy issuance will follow in FY 2012.

Previously Missed Deadline(s): N/A

A-07-50. Issue airworthiness directives to replace the windshield heat terminal block on all Boeing 747, 757, 767, and 777 airplanes in accordance with the Boeing service bulletins.

Proposed Completion Date: December 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On August 17, 2010, AD; The Boeing Company Model 757 Airplanes, Model 767 Airplanes, and Model 777-200 and -300 Series Airplanes, became effective. This AD addresses the high power heat terminal for Boeing 757, 767, and 777 airplanes. On November 19, 2010, the FAA published NPRM AD; The Boeing Company Model 747-100, 747-100B, 747-100B SUD, 747-200B, 747-200C, 747-200F, 747-300, 747-400, 747-400D, 747-400F, 747SR, and 747SP Series Airplanes, addressing the high power heat terminal for Boeing 747 airplanes, which will be followed by a final rule AD. The FAA is planning to require additional corrective actions for the low power terminals for the 757 airplanes only, which is anticipated to be complete by December 2012.

Previously Missed Deadline(s): N/A

A-07-115. Issue an airworthiness directive requiring operators of Boeing 777 airplanes to comply with Boeing Service Bulletin 777-29-0032 to protect the nose landing gear hydraulic line from the effects of electrical arcing from the primary and secondary external power receptacles.

Proposed Completion Date: December 31, 2011

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On August 9, 2007, Boeing issued Service Bulletin (SB) 777-29-0032 for Boeing model 777 airplanes to minimize the risk of damage to the nose landing gear hydraulic line from the effects of electrical arcing within the primary and secondary external power receptacles. The production airplanes have already incorporated the design features included in the SB. The FAA determined that regulatory action to mandate changes was required. NPRM AD; The Boeing Company Model 777-200, - 200LR, -300, and -300ER Series Airplanes, which fully adopts this recommendation, was published on January 18, 2011. A final rule AD is expected by December 2011.

Previously Missed Deadline(s): N/A

A-07-116. Require Boeing to modify and air carriers to install the protective cover guard for primary and secondary external power receptacles for all model 777 airplanes to eliminate the possibility of debris entering the receptacles and causing electrical shorting and arcing between the receptacle studs.

Proposed Completion Date: December 31, 2011

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On August 9, 2007, Boeing issued SB 777-29-0032 for Boeing model 777 airplanes to minimize the risk of damage to the nose landing gear hydraulic line from the effects of electrical arcing within the primary and secondary external power receptacles. The production airplanes have already incorporated the design features included in the SB. The FAA determined that regulatory action to mandate changes was required. NPRM AD; The Boeing Company Model 777-200, - 200LR, -300, and -300ER Series Airplanes, which fully adopts this recommendation, was published on January 18, 2011. A final rule AD is expected by December 2011.

Previously Missed Deadline(s): N/A

A-09-45. Formalize the airworthiness directive process so that, when an aircraft manufacturer or other source identifies an airworthiness issue with an appliance, coordination with the appliance manufacturer occurs to ensure that the possible safety risks to all products using the appliance are evaluated and addressed.

Completion Date: May 25, 2010

DOT Status: AC✓

NTSB Status: OAR (July 8, 2009)

Implementation Description: FAA Order 8110.107, Monitor Safety/Analyze Data, was issued on March 12, 2010, requiring that the FAA contact the appliance design approval holder to help determine applicability of an airworthiness concern related to an appliance. Additional guidance was also placed in the Airworthiness Directives Manual, published on May 17, 2010, for how to issue an AD against an appliance.

Previously Missed Deadline(s): N/A

A-10-72. Require applicants for aircraft certification to demonstrate that their ditching parameters can be attained without engine power by pilots without the use of exceptional skill or strength.

Proposed Completion Date: December 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA reviewed the regulatory and guidance material related to showing airplane controllability with all engines failed. It determined that there is no clear requirement for applicants to demonstrate that ditching parameters, if different from a normal flare maneuver, can be attained without engine power by pilots without the use of exceptional skill or strength.

The FAA intends to revise AC 25-7A, Flight Test Guide for Transport Category Airplanes, to include procedures for demonstration of ditching parameters as requested in this recommendation. This AC is currently undergoing a major revision, which the FAA expects to make available for public comment by December 2011 with final publication expected in late 2012.

Previously Missed Deadline(s): N/A

A-10-76. Work with the U.S. Department of Agriculture to develop and implement innovative technologies that can be installed on aircraft that would reduce the likelihood of a bird strike.

Proposed Completion Date: A proposed completion date cannot be determined since research is not finalized.

DOT Status: AIP

NTSB Status: OAA

Aircraft Certification Service

Implementation Description: The FAA initiated research programs at the FAA William J. Hughes Technical Center that will address this recommendation. For nearly two decades, the FAA has partnered with the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service/Wildlife Services and National Wildlife Research Center through an Interagency Agreement to conduct research related to all aspects of wildlife hazards at airports.

While the majority of aircraft collisions with birds do occur on or near airports - that is, under 3,000 feet above ground level - the FAA/USDA research and development efforts to date have been primarily focused on:

1. Habitat management - methods to reduce the attractiveness of airport habitats to hazardous species; and
2. Hazardous species control - techniques and tools for controlling those species in the event that they are already present on the airport property.

The FAA also contributed to the funding of a USDA study into the response behavior of birds to pulsating aircraft landing lights. However, the recent findings and subsequent subject recommendation expand the focus of FAA Airport Technology Research and Development research to include technologies that are installed on the aircraft.

The FAA is working with USDA to establish a plan of action for incorporating aircraft-based technologies as a prominent component of the FAA's ongoing wildlife research and development activities. Some potential aircraft-based ideas include the use of onboard weather radars to deter birds, pulsating lights, paint schemes, acoustic devices, and directed energy. This research will be prioritized with the other safety-related research the FAA identified to determine which will yield the greatest benefits for our limited research resources. The selection results for newly funded research are expected by mid-2012.

Previously Missed Deadline(s): N/A

A-10-99. Require operators of CF6-45/50-powered airplanes to perform fluorescent penetrant inspections of CF6-45-50- low pressure turbine stage 3 disks at every engine shop visit until the low pressure turbine stage 3 disk is replaced with a redesigned disk that can withstand the unbalance vibration forces from the high pressure rotor.

Completion Date: August 31, 2011

DOT Status: AC

NTSB Status: OAA

Implementation Description: The FAA received comments to the NPRM AD; General Electric Company (GE) CF6-45 Series and CF6-50 Series Turbofan Engines, which published on October 20, 2010. The FAA issued the related final rule in August 2011.

Previously Missed Deadline(s): N/A

Aircraft Certification Service

A-10-100. Immediately require General Electric Company to redesign the CF6-45/50 low pressure turbine stage 3 disk so that it will not fail when exposed to high pressure rotor unbalance forces.

Completion Date: May 12, 2011

DOT Status: AC✓

NTSB Status: OAA

Implementation Description: In November of 2009, the FAA requested that the engine manufacturer redesign the part. The manufacturer completed the redesign program and the FAA certified this improved design on May 12, 2011.

Previously Missed Deadline(s): N/A

A-10-101. Once General Electric Company has redesigned the CF6-45/50 low pressure turbine (LPT) stage 3 disk in accordance with Safety Recommendation A-10-100, require all operators of CF6-45/50-powered airplanes to install the newly designed LPT S3 at the next maintenance opportunity.

Proposed Completion Date: September 30, 2013

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA certified the redesigned engine part on May 12, 2011, and expects to complete development of an acceptable retrofit program by the end of October 2011.

Previously Missed Deadline(s): N/A

A-04-46. Conduct research to determine the effectiveness of each of the current Federal Aviation Administration-approved color vision test protocols (including the color signal light test) at effectively screening out pilot applicants with color vision deficiencies that could impair their ability to perform color-related critical aviation tasks including (but not limited to) correct interpretation of glideslope information and in-cockpit displays that use color to convey information. The research should take into account the time typically available to perform each task, particularly under emergency conditions, and the potential effect of mild hypoxia (as might occur at typical cabin altitudes) on color vision deficiencies.

Completion Date: February 28, 2011

DOT Status: AC✓

NTSB Status: OAA

Implementation Description: The FAA conducted a series of studies in response to SR A-04-46. Concerning current pilot color vision screening, the FAA's findings suggest that subjects who can pass clinical color screening make few or no errors in discriminating colors in signal lights, approach lighting (including precision approach path indicator lights), airport surface lighting, or cockpit displays. This is true whether those tasks make use of incandescent or light emitting diode (LED) lights. AAM revised its approved list of initial color vision screening tests in 2010.

However, these studies raised concerns about the operational performance based testing process for those who fail current pilot clinical color screening. Color use in airport surface lighting, glide path signaling systems, and cockpit displays is changing. Surface and signaling systems are moving to LED lighting to increase energy efficiency. Aircraft manufacturers are making increasing use of color in cockpit display systems. Signal Light Guns (SLGs), used operationally for communication in the absence of radio and as a certification tool to predict safe performance of airmen with deficient color vision, have also changed. Older SLGs (e.g., Crouse-Hinds Type W-1 Signal Light Gun) were able to identify which color vision deficient (CVD) individuals were also able to discriminate the various surface lighting requirements. The result of the FAA's studies show that older SLGs predicted well who could not discriminate airport surface lighting, glide path signaling systems, and cockpit displays, using both incandescent and LED lights.

Newer SLGs (e.g., ATS Aerospace, Inc. Model 901) produce colors which are easier to discriminate by CVD individuals. Approximately 2/3 of research subjects with color vision deficiencies pass newer SLGs. This is beneficial for operational use. If communication by signal light is necessary, more CVD pilots would be able to do so. However, the error rate among those who pass the newer SLG but fail the older SLG test is elevated for airport surface lighting, glide path signaling systems, and cockpit displays. Between 20 and 48 percent of those who pass only the newer SLG failed to make required discriminations in these areas, as compared to subjects with normal color vision. Therefore, the new SLG cannot be used as a stand alone test to predict one's ability to perform other color-based cockpit tasks.

This suggests that the concerns articulated in SR A-04-46 are well-founded. In December 2010, the Federal Air Surgeon recommended the decertification of the older Crouse-Hinds Type W-1

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SLG for operational use, out of concern that a pilot cleared on a newer SLG might encounter and fail to discriminate operational signals from an older SLG. Continuing work in this area is described in the FAA's response to SR A-04-47.

Concerning the impact of mild hypoxia, three divisions at CAMI (Aerospace Human Factors, Aeromedical Research, and Aeromedical Education) collaboratively examined the effects of mild hypoxia (chamber environment equivalent to altitudes of 8,000 and 12,400 feet) to determine whether hypoxia induced color perception decrements would render pilots with marginal color vision incapable of interpreting color-coding in the cockpit or airport environment. Results indicated that hypoxia has no measurable effect among color vision normal or deficient subjects at altitudes experienced in a pressurized cabin or at the allowable limits for extended unpressurized flight. On color identification, color naming, and color discrimination tasks and measurements by high-precision clinical tests, participants performed no worse at the measured altitudes than they did at ground level, regardless of their color vision status. Only a slight decrease in sensitivity to green light among color vision normal and anomalous trichromat (mildest deficient) subjects was documented (Hovis & Milburn, 2011). Other research (Richalet, Duval-Arnould, Darnaud, Keromes, & Rutgers, 1988) has documented color vision loss in color vision normal subjects at altitudes above 14,000 feet and color vision loss is routinely described by participants in high altitude training above 18,000 feet. No action is required regarding color vision relative to mildly hypoxic flight conditions.

References:

Hovis JK, Milburn N. (2011). Color discrimination of color-normals and color-defectives in a mild hypoxic environment. Poster accepted at the biannual International Society of Aviation Psychology Meeting, Dayton Ohio.

Richalet, J.P., Duval-Arnould, G., Darnaud, B., Keromes, A., & Rutgers, V. (1988). Modification of colour vision in the green/red axis in acute and chronic hypoxia explored with a portable anomaloscope. *Aviation, Space, and Environmental Medicine*, 59, 620-623.

Previously Missed Deadline(s): N/A

A-09-62. Implement a program to identify pilots at high risk for obstructive sleep apnea and require that those pilots provide evidence through the medical certification process of having been appropriately evaluated and, if treatment is needed, effectively treated for that disorder before being granted unrestricted medical certification.

Proposed Completion Date: December 31, 2011

DOT Status: AIP

NTSB Status: OUA (June 8, 2010)

Implementation Description: As previously stated, the process for the evaluation, treatment, and possible SIMC of airman with possible Obstructive Sleep Apnea (OSA) is documented in

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the FAA Aviation Medical Examiner (AME) Guide. The FAA believes that the implementation of the previously noted AME education program on OSA will help identify those airmen with the potential diagnosis, promote deferral of their medical certification, when appropriate, until an evaluation is completed, and allow for SIMC when it can be done safely. Airmen with the diagnosis of OSA will not receive unrestricted medical certificates.

The FAA is currently developing a process to more vigorously screen airmen for the presence of OSA, as well as other sleep disorders, and if present, and effectively treated, allow a special issuance of an FAA medical certificate. Implementation of such a new process will require increased review and oversight by AAM personnel for which it is not currently adequately staffed. The FAA is continuing to explore ways that this process might best be implemented under current staffing limitations. This effort is ongoing.

Previously Missed Deadline(s): N/A

A-09-63. Develop and disseminate guidance for pilots, employers, and physicians regarding the identification and treatment of individuals at high risk of obstructive sleep apnea, emphasizing that pilots who have obstructive sleep apnea that is effectively treated are routinely approved for continued medical certification.

Completion Date: June 7, 2011

DOT Status: AC✓

NTSB Status: OAA

Implementation Description: As previously stated, the FAA believes that the program described in its initial and updated response to SR A-09-61 accomplishes the desired goal of this recommendation, particularly in light of having trained 1,191 AMEs to date. Two Pilot Safety Brochures, titled, Obstructive Sleep Apnea and Fatigue in Aviation, are currently for distribution to pilots, employers, AMEs, and other interested physicians.

In addition, AAM submitted a revision to the AIM, Chapter 8 – Medical Facts for Pilots, Section 1, entitled Fitness for Flight, that includes a new section on OSA. It describes the importance of an OSA diagnosis and its effective treatment.

Previously Missed Deadline(s): N/A

A-09-64. Conduct research examining how pilot fatigue is affected by the unique characteristics of short-haul operations and identify methods for reducing those effects; include research into the interactive effects of shift timing, consecutive days of work, number of legs flown, and the availability of rest breaks.

Proposed Completion Date: November 30, 2011

DOT Status: AIP**NTSB Status:** OAA

Implementation Description: This recommendation has been overcome by events that address the underlying concerns of the SR. In section 212 of P.L. 111-216, Congress directed the FAA to issue regulations no later than August 1, 2011 to “specify limitations on the hours of flight and duty time allowed for pilots to address problems relating to pilot fatigue.” On September 14, 2010, the Flightcrew Member Duty and Rest Requirements NPRM was published. The FAA received and reviewed all public comments on the NPRM and is preparing a final rule, which is anticipated to be published by November 30, 2011. No additional research addressing this recommendation is currently planned.

Previously Missed Deadline(s): The Flightcrew Member Duty and Rest Requirements final rule was scheduled to be published in August 2011 as outlined in P.L. 111-216. The final rule is currently scheduled to be published in November 2011.

A-10-78. Conduct research to determine the most beneficial passenger brace position in airplanes with nonbreakover seats installed. If the research deems it necessary, issue new guidance material on passenger brace positions.

Proposed Completion Date: The FAA estimates that the recommended research will be completed and findings available by June 30, 2012. As recommended, the development and publication of guidance material will be based on research findings.

DOT Status: AIP**NTSB Status:** OAA

Implementation Description: The FAA is reviewing previous CAMI testing initiated to determine the appropriate test methods to be used in future assessments. Research was initiated in FY 2011.

Previously Missed Deadline(s): N/A

A-98-82. Review all en route minimum instrument altitude charts and associated National Airspace System adaptation to ensure that air traffic control (ATC) facilities comply with Federal Aviation Administration Orders 7210.3, 7210.37, 8260.3, and 8260.19 and that pilots comply with 14 Code of Federal Regulations Part 91.177 when operating at ATC-assigned altitudes.

Completion Date: November 22, 2010

DOT Status: AC*

NTSB Status: OUA (January 31, 2011)

Implementation Description: In the FAA's letter dated November 17, 2000, it stated that a review was initiated of all guidance materials pertaining to the establishment, depiction, and use of minimum instrument altitude (MIA) information. The result of this review was the publishing of JO 7210.37D, En Route Minimum Instrument Flight Rules (IFR) Altitude (MIA) Sector Charts, effective June 15, 2010. This order requires the rounding up of resultant MIAs to ensure minimum required obstacle clearance, which harmonizes with guidance contained in FAA Order 8260.3B, Change 22, United States Standard for Terminal Instrument Procedures, issued on April 1, 2011. The FAA met with the Board on May 9, 2011, to review technical details of the order, audit, and resulting actions.

Previously Missed Deadline(s): N/A

A-00-35. Amend the Aeronautical Information Manual to inform pilots that controllers will issue traffic information about aircraft operating on intersecting runways where flightpaths converge and explain the rationale for the procedure.

Completion Date: March 10, 2011

DOT Status: AC✓

NTSB Status: OUA (February 15, 2011)

Implementation Description: The AIM was amended March 10, 2011 to reflect this recommendation.

Previously Missed Deadline(s): N/A

A-00-67. Amend 14 CFR Section 91.129(i) to require that all runway crossings be authorized only by specific air traffic control clearance, and ensure that U.S. pilots, U.S. personnel assigned to move aircraft, and pilots operating under 14 CFR Part 129 receive adequate notification of the change.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA implemented a notice to change Joint Order (JO) 7110.65, Air Traffic Control, on June 30, 2010, requiring controllers to issue explicit instructions when clearing aircraft to cross any runway. The ATO published Change 2 on March 10, 2011, which incorporates this change in JO 7110.65T. The Rulemaking Management Council approved this change on May 3, 2011, to be included in 14 CFR 129(i). The FAA expects a final rule to be published by September 30, 2012.

Previously Missed Deadline(s): N/A

A-00-71. Amend Federal Aviation Administration Order 7110.65, "Air Traffic Control," to require the use of standard International Civil Aviation Organization phraseology (excluding conditional phraseology) for airport surface operations, and periodically emphasize to controllers the need to use this phraseology and to speak at reasonable rates when communicating with all flight crews, especially those whose primary language is not English.

Completion Date: September 30, 2010.

DOT Status: AC✓

NTSB Status: OAA (July 17, 2009)

Implementation Description: The FAA implemented a change to JO 7110.65, Air Traffic Control, on September 30, 2010, with phraseology to harmonize with the International Civil Aviation Organization (ICAO) phraseology of "Line Up and Wait" instead of the FAA phraseology of "Taxi Into Position and Hold." A comprehensive plan is in effect to periodically monitor the safety and effectiveness of this procedural change.

Previously Missed Deadline(s): N/A

A-01-11. Modify air route traffic control center (ARTCC) mode C intruder software to ensure that all aircraft operating under ARTCC radar control receive full conflict alert and mode C intruder services regardless of whether they are in ARTCC, terminal radar approach control, or other airspace.

Proposed Completion Date: The FAA had another meeting with the Board's staff to review the technical requirements of this recommendation. The FAA is reviewing the recent discussion to see if any procedures can be change to meet the intent of the SR. Once this review is complete, a completion date can be determined.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The Board's April 19, 2006 letter specifies that the software patch tested at Los Angeles ARTCC (ZLA) was not what was recommended but was instead a general suppression of defined false conflict alert conditions. The Board requested a meeting with FAA staff who are able to provide answers to detailed technical questions about the software revisions made and to discuss the steps that have been taken to prevent false alarms.

The Board provided clarification concerning the intent of this recommendation, and on March 17, 2011, ATO responded with additional technical specifications for evaluation purposes.

Previously Missed Deadline(s): N/A

A-01-36. Develop and ensure that air traffic controllers receive academic and simulator training that teaches controllers to quickly recognize and aggressively respond to potential distress and emergency situations in which pilots may require air traffic control (ATC) assistance, including but not limited to (1) recognition of situations in which visual flight rules aircraft may be encountering instrument meteorological conditions; (2) an understanding of common aircraft system failures that may require ATC assistance or special handling; and (3) the application of specific techniques for assisting pilots that encounter such weather difficulties and aircraft system failures. Further, this training should be based on actual accidents or incidents, include a comprehensive review of successful flight assists and the techniques used, and be reviewed annually to ensure that the training materials remain current and effective.

A-01-40. Develop and annually provide to supervisory and controller-in-charge personnel specific training on their roles in handling emergencies, including monitoring and supervising control actions, coordinating actions internally and with other air traffic control facilities, and the need to act assertively to ensure successful resolution of emergency situations. This training should be based on actual accidents or incidents, include a comprehensive review of successful flight assists and the techniques used, and be reviewed annually to ensure that the training materials remain current and effective.

Completion Date: March 15, 2011

DOT Status: AC✓

NTSB Status: OAA (March 21, 2007)

Implementation Description: Issued on March 15, 2011, JO 3120.4M, Air Traffic Technical Training, specifies that refresher training should be based on real life aircraft incidents and accidents. The training should also contain information on “weather and other conditions that affect flight,” including visual flight rules aircraft that encounter instrument meteorological flight conditions and unusual situations.

The FAA developed and implemented computer-based instruction course 57098, Recognizing and Responding to Aircraft Emergencies. This course was last revised in 2010 and provides a review of the correct approach to ensure air traffic controllers and their supervisors quickly recognize and respond appropriately to potential distress and emergency situations.

Previously Missed Deadline(s): N/A

A-01-68. Conduct research activities to determine if recent technological advances would enable submerged low-impact structures and other nonfrangible structures at airports to be converted to frangible ones.

Proposed Completion Date: Research is ongoing; there is currently no proposed completion date.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: It will take the FAA two initiatives to address this recommendation. First, the FAA will reexamine its previous analysis and findings and determine whether or not any advances in technology can be applied to submersible structures to make them more frangible. The FAA's second course of action will be to accelerate completion of the Airport Lighting System Improvement Program, which was initiated to replace nonfrangible support structures with frangible land-mounted facilities. The FAA's February 20, 2003, preliminary analysis and evaluation were deemed 'responsive' to the recommendation by the Board.

Previously Missed Deadline(s): N/A

A-07-30. Work with the National Air Traffic Controllers Association to reduce the potential for controller fatigue by revising controller work-scheduling policies and practices to provide rest periods that are long enough for controllers to obtain sufficient restorative sleep and by modifying shift rotations to minimize disrupted sleep patterns, accumulation of sleep debt, and decreased cognitive performance.

Proposed Completion Date: Recent events have brought a large amount of attention and scrutiny to this issue. Until the FAA evaluates all possible policy changes, an accurate completion date cannot be formed.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: In September 2009, the FAA established the Fatigue Risk Management (FRM) program office. In November 2009, the FAA and the National Air Traffic Controllers Association (NATCA) began collaboration, along with CAMI and the National Aeronautics and Space Administration (NASA) human factors scientists, to identify causes of controller fatigue, associated hazards and risks, and appropriate mitigations to reduce fatigue risk in the National Airspace System (NAS).

In April 2010, in collaboration with NATCA, the FRM program office sponsored fatigue research that involved an online survey for all operational employees and a 14-day objective study for selected participant volunteers at 29 selected facilities. The research, conducted by NASA Ames Research Center, was designed to determine the present state of controller alertness and fatigue, and will serve as a baseline for evaluating the efficacy of fatigue mitigation strategies. Over 3,200 controllers volunteered for the survey, as well as 308 who volunteered for

the objective study; both completed in December 2010. Both sets of collected data will be merged to answer questions concerning the impact of schedules on sleep quantity and quality, perceived fatigue, and measured alertness.

On January 20, 2011, the FRM program office and NATCA delivered a joint briefing of twelve Article 55 (A55) recommendations for consideration to J. Randolph Babbitt, FAA Administrator, and Paul Rinaldi, President of NATCA. Four of the twelve recommendations are directly related to scheduling and breaks. The FRM program office is participating in a joint FAA/NATCA review team to assess implementation considerations and impact for the twelve recommendations.

The twelve recommendations are:

1. Modify current policy, orders, etc., to permit naps during relief periods (breaks);
2. In addition to normal breaks on midnight shifts, include a provision for a recuperative break for 2½ hours, which incorporates time to overcome sleep inertia should an employee choose to nap;
3. Provide a minimum of nine (9) hours between evening and day shifts;
4. On a 2-2-1 Counter Clockwise rotation, reduce the day shift preceding the first midnight shift from eight to seven hours, and begin that shift one hour later, to provide the opportunity for an extra hour of restorative sleep at the end of the night time sleep period;
5. Create policies and procedures that encourage self-initiated evaluation, diagnosis and demonstration of initial treatment effectiveness of sleep apnea (SA) by removal or reduction of economic disincentives;
6. Use AAM prepared SA education to build SA awareness in the ATO workforce, include raising awareness of respiratory coaching to SA patients;
7. AAM should:
 - Stay current with state of the art in sleep medicine;
 - Utilize American Academy of Sleep Medicine standards and practices for SA risk factor identification, diagnosis and treatment standards;
 - Document the process for medical qualification for individuals at risk for SA;
 - Develop educational materials for the workforce and AMEs; and
 - Educate AMEs on SA.
8. Develop policy and education for employees defining responsibilities to minimize fatigue and report fit for duty, and action to be taken when they consider themselves too fatigued to safely perform their duties;
9. In order to avoid on-the-job fatigue that threatens safety, develop policy and education for managers that incorporates emphasis on a non-punitive approach when an employee, in

accordance with the developed policy, self-declares as too fatigued to safely perform operational duties;

10. Update existing fatigue awareness training to reflect current science and to personalize the application of the training;
11. Design and implement a Fatigue Risk Management System (FRMS) within the FAA operational ATC environment; and
12. Continue to support the post-recommendation work streams by creating a transition team composed of A55 FRM WG members until the formal FAA FRMS is established for ATC.

The ATO Safety Office took additional actions to improve scheduling practices and procedures for air traffic controllers. The ATO FRM program office led a collaborative effort with NATCA representatives, management, and fatigue scientists to develop questions to capture quantitative and qualitative fatigue data. In early May 2011, the Air Traffic Safety Action Program (ATSAP) submitter report was revised to implement the fatigue data capture questions, which include work shift information, sleep information, time on duty, time on position, breaks, contributing factors (such as training demands or traffic complexity), and both physical and cognitive signs of fatigue. This section of the form is voluntary for an individual filing a report following an event.

In coming months, the fatigue data capture questions will be provided as an optional questionnaire for individuals to submit with a personal statement after an event. The fatigue data may help determine if fatigue is a contributory or causal factor to a reported event. The FAA believes that the comprehensive fatigue identification and risk mitigation activities will address scheduling policies and practices to reduce fatigue among air traffic controllers.

Previously Missed Deadline(s): N/A

A-07-34. Require all air traffic controllers to complete instructor-led initial and recurrent training in resource management skills that will improve controller judgment, vigilance, and safety awareness.

Proposed Completion Date: Until the FAA finishes the organizational realignment of CRM training, an accurate completion date cannot be formed.

DOT Status: AIP

NTSB Status: OUA (January 13, 2011)

Implementation Description: The CRM training is being redesigned to include Conflict Management in ATC and an introduction to address FRM. The redesigned training will also integrate other similar FAA safety programs such as ATSAP, Quality Assurance, Safety Culture, and Partnership for Safety. The goal is to provide all air traffic controllers with operational behavioral human factors training, the ability to identify and mitigate risk, and promote a positive safety culture. To date, the CRM training has been administered to 10,850 air traffic controllers.

Previously Missed Deadline(s): N/A

A-07-48. Revise Federal Aviation Administration Order 7110.65, "Air Traffic Control," to indicate that controllers should refrain from performing administrative tasks, such as the traffic count, when moving aircraft are in the controller's area of responsibility.

Proposed Completion Date: Due to ongoing coordination within the FAA, an accurate completion date cannot be formed.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On March 10, 2011, the FAA fulfilled the intent of this recommendation by publishing Change 2 to JO 7210.3W, Facility Operation and Administration, paragraph 2-6-1a.12, which states, "administrative duties must not be accomplished to the detriment of any operational duty." This change was to emphasize the separation between administrative and operational tasks. The FAA is currently determining whether to amend JO 3120.4M, Air Traffic Technical Training.

Previously Missed Deadline(s): N/A

A-10-105. Conduct research into and document the effects of mountain wave and downslope conditions at airports, such as Denver International Airport, that are located downwind of mountainous terrain (including, for example, airports in or near Colorado Springs, Colorado; Anchorage, Alaska; Salt Lake City, Utah; and Reno, Nevada), identify potential mountain-wave-related hazards to ground operations at those airports, and disseminate the results to pilots and airport air traffic control personnel to allow for more informed runway selection decisions.

Proposed Completion Date: September 30, 2013

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA's Weather Research Program will sponsor a turbulence analysis and forecast product known as the Graphic Turbulence Guidance (GTG) to address turbulence caused by mountain waves. GTG provides values of turbulence intensity as measured by the state of the atmosphere metric, Eddy Dissipation Rate (EDR), which is the ICAO standard. Currently GTG-2, which forecasts clear air turbulence above 10,000 feet, is operational on the Web-based Aviation Digital Data Service. GTG-3 will add mountain-wave turbulence forecasts and is anticipated to be operational in FY 2013. Input to the GTG includes frequent updates from aircraft equipped to automatically downlink EDR data. This information is also used to issue advisories to pilots called significant meteorological information (for severe turbulence) and airmen's meteorological information (for moderate turbulence) during mountain wave events.

Previously Missed Deadline(s): N/A

A-10-106. Archive all low-level windshear alert system (LLWAS) data obtained from Denver International Airport and other airports that experience similar wind conditions and make these data available for additional research and the potential future development of an improved LLWAS algorithm for crosswind and gusty wind alerts on air traffic control tower ribbon display terminals.

Proposed Completion Date: A completion date cannot be provided until the FAA determines the requirements and subsequent course of action for this recommendation.

DOT Status: AIP

NTSB Status: ORR

Implementation Description: All FAA owned LLWAS' archive wind data and maintenance information is at both the local level as well as at the FAA's National Airway Systems Engineering Office. The national office is where agency meteorologists periodically review the information in order to optimize the algorithms at the various system locations. This data can also be provided as needed to the National Center for Atmospheric Research (NCAR) for further research. NCAR continues to partner with the FAA in meeting various aviation weather system requirements, such as the Juneau Airport Winds System.

Previously Missed Deadline(s): N/A

A-03-11. Require all 14 Code of Federal Regulations Part 139 certificated airports to upgrade all runway safety areas that could, with feasible improvements, be made to meet the minimum standards established by Advisory Circular 150/5300-13, "Airport Design." The upgrades should be made proactively, not only as part of other runway improvement projects.

Proposed Completion Date: December 31, 2015

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA developed plans and a schedule for completing all practicable improvements to runway safety areas (RSA) at certificated airports by December 2015. The FAA reports on each year's progress in an annual report to Congress.

Previously Missed Deadline(s): N/A

A-03-12. Require all 14 Code of Federal Regulations Part 139 certificated airports to install engineered materials arresting systems in each runway safety area available for air carrier use that could not, with feasible improvements, be made to meet the minimum standards established by Advisory Circular 150/5300-13, "Airport Design." The systems should be installed proactively, not only as part of other runway improvement projects.

Proposed Completion Date: December 31, 2015

DOT Status: AIP

NTSB Status: OAA

Implementation Description: So far, 51 engineered materials arresting systems (EMAS) have been installed at 35 airports. Nine EMAS are scheduled to be installed by the end of FY 2011. The FAA plans to complete all practicable improvements to RSAs on certificated airports by December 2015. An EMAS will be considered as an alternative for improving each RSA.

Previously Missed Deadline(s): N/A

A-07-46. Require that all airports certificated under 14 Code of Federal Regulations Part 139 implement enhanced taxiway centerline markings and surface painted holding position signs at all runway entrances.

Completion Date: April 25, 2011

DOT Status: AC*

NTSB Status: OAA (July 8, 2009)

Implementation Description: All certificated airports have installed the enhanced centerline markings. The FAA completed all actions for this SR.

Previously Missed Deadline(s): N/A

A-07-101. Require airport inspectors to ensure that Part 139 airports with cargo operations include cargo aircraft in their aircraft rescue and firefighting aircraft familiarization training programs.

Completion Date: September 23, 2009

DOT Status: AC✓

NTSB Status: OAA (February 4, 2009)

Implementation Description: The FAA published AC 150/5210-17B, Programs for Training of Aircraft Rescue and Firefighting Personnel, on September 23, 2009. The FAA stated that familiarization of aircraft, as stated in § 139.319, refers to any type of aircraft landing at individual airports. As a result of this change in the AC, when airport certification safety inspectors inspect the aircraft rescue and firefighting training records, they will be looking specifically for training on cargo aircraft.

Previously Missed Deadline(s): N/A

A-10-75. Require all 14 Code of Federal Regulations Part 139-certificated airports to conduct wildlife hazard assessments (WHA) to proactively assess the likelihood of wildlife strikes, and, if the WHA indicates the need for a wildlife hazard management plan (WHMP), require the airport to implement a WHMP into its airport certification manual.

Proposed Completion Date: December 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA expects to publish the NPRM in the fall of 2011. After the close of the comment period, the FAA anticipates completing the final rule in late 2012.

Previously Missed Deadline(s): N/A

Partially Adopt

(This category includes recommendations that the FAA has partially adopted or plans to partially adopt.)

Aviation Safety: Flight Standards Service

Aviation Safety: Aircraft Certification Service

Aviation Safety: Office of Aerospace Medicine

Air Traffic Organization

Airports

Staff Office: Office of Security and Hazardous
Materials Safety

A-94-56. Require manufacturers of turbojet, transport category airplanes to determine, by flight test or other suitable means, the characteristics of the airplanes' wake vortices during certification.

Proposed Completion Date: This effort is an ongoing process with a final date yet to be determined.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA concurs that the wake characteristics for all turbojet, transport-category airplanes should be determined during certification and prior to being placed into service. This process is being refined for acceptance and documentation purposes within the FAA. Additionally, the FAA is adapting the process to an international level for presentation and recommendation to ICAO as a proposed international process for evaluating wake characteristics of new aircraft and determining their wake category and/or separation standards. Additional experience and understanding has been gained as the FAA works collectively in the international arena toward harmonized wake turbulence re-categorization standards.

The current practice is being utilized and is demonstrated by recent and current efforts related to the A380, B747-8 and B787 wake categorization and wake separation standards efforts. Initially, any new aircraft will be evaluated using the NASA Accident Precursor Analysis methodology or newer technology as it becomes available. This will be used as a screening tool to determine which aircraft will require flight test measurements for wake characterization and which can be safely placed in the appropriate category by analysis alone. If an aircraft is clearly well within a current category, the analysis will be the basis of the wake characterization. However, any aircraft placed in a category by analysis alone will be subject to monitoring by airport Light Detection and Ranging (LIDAR) measurements at airports where the FAA has established LIDAR measurement sites and through wake encounter incident reporting.

For aircraft which have a gross weight near a category boundary or a novel or unusual configuration (e.g. canards, blended wing-body, powered lift, etc.), flight tests may be required to evaluate wake characteristics. In case it is not possible to evaluate the wake characteristics prior to entry into service, a 10 nm separation will be applied for all following aircraft. Additionally, the FAA is pursuing internal research to determine absolute safety standards for wake turbulence encounters. When this technology reaches the required level of maturity, it is the intent of the FAA to use it, rather than the relative assessment, to establish wake separation standards.

Previously Missed Deadline(s): N/A

A-97-71. Review the issue of personnel fatigue in aviation maintenance; then establish duty time limitations consistent with the current state of scientific knowledge for personnel who perform maintenance on air carrier aircraft.

Completion Date: December 11, 2008

DOT Status: AC*

NTSB Status: OUA (October 7, 2009)

Implementation Description: The FAA completed studies and has several accomplishments on the maintenance fatigue issue, which include:

Studies:

- Published a final report in 1999, Study of Fatigue Factors Affecting Human Performance in Aviation Maintenance; and
- Published a final report, Evaluation of Aviation Maintenance Working Environments, Fatigue, and Maintenance Errors/Accidents, in 2000.

Accomplishments:

- Completed new guidance manual, Operators Manual for Human Factors in Aviation Maintenance, in September 2005, with 20 percent of this industry/FAA guidance material dedicated to fatigue;
- Hired a chief scientist and technical advisor for human factors (HF) in aircraft maintenance systems and an ASI as a maintenance HF subject matter expert (SME). Collectively, they provide HF lectures at industry workshops, renewals, symposiums, and conferences to educate the aviation community further on many maintenance HF issues, including fatigue, on a continuing basis; and
- Co-sponsored three Aviation Maintenance Human Factors International Symposiums with ATA, which included presentations on fatigue.

Studies consistently support an approach to this safety issue based on increased awareness and education and training in fatigue management and maintenance resource management.

Consequently, FAA conducted several actions to educate and train the aviation community on fatigue management in aircraft maintenance personnel. The following is a partial list of these actions:

- Issued AC 120-72, Maintenance Resource Management Training, on September 28, 2000, which includes a prototype Maintenance Resource Management (MRM) computer-based training (CBT) course for industry;
- Developed and distributed MRM CBT to industry, academia, and regulatory authorities worldwide on over 10,000 CD ROMs;
- Developed an MRM curriculum and course, Maintenance Resource Management for ASIs. The FAA provides this course to ASIs and, to date, approximately 1,000 inspectors have attended the class. An entire section of the course has been dedicated to stress and fatigue;

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- Sponsored several international conferences on aircraft maintenance HF that included management of fatigue for aircraft maintenance personnel;
- Addressed fatigue, shift work, and scheduling for aircraft maintenance personnel in the FAA Human Factors Guide for Aviation Maintenance;
- Made available some of the studies, training, and recommendations on maintenance personnel fatigue on the FAA HF websites at <http://hfskyway.faa.gov> and www.hfskyway.com; and
- Sponsored the first Aviation Fatigue Management Symposium from June 17-19, 2008. This symposium brought together over 300 experts from industry, government, and academia to share the most current information on fatigue and discuss possible fatigue management strategies and best practices. The participants looked at issues affecting flight and cabin crews, air traffic controllers, technicians, mechanics, dispatchers, and ramp workers. The conference attendees generally agreed that fatigue mitigation must be based on scientific principles developed through enhanced data collection.

The FAA continues to support research and development (R&D) efforts in this specific area, headed by CAMI. The R&D efforts are supported by industry SMEs participating in workgroups, which are made up of air carriers, manufacturers, labor, and academia. The workgroups are tasked with many requirements over the next few years, one being providing the FAA a report by 3rd quarter 2011 regarding FRMS and regulatory recommendations for maintenance.

The efforts also include ensuring harmonization with the upcoming ICAO FRMS requirements. In the interim, the FAA developed short term industry awareness tools such as the 2010 Fatigue Survival Toolbox Calendar, and added the efforts of the FRMS working group to the HF website.

Rulemaking Project:

The FAA initiated a rulemaking project, Air Carrier Maintenance Training Program and Air Carrier Manual Requirements (see the response to SRs A-04-11, 15, and 16) and is currently developing an NPRM that will address maintenance training programs, including HF training, for domestic, flag, and supplemental operations and commuter and on-demand operations for aircraft carrying 10 or more passengers.

Previously Missed Deadline(s): N/A

A-98-47. Require training for cargo handling personnel and develop advisory material for carriers operating under 14 Code of Federal Regulations Part 121 and principal operations inspectors that addresses curriculum content that includes but is not limited to, weight and balance, cargo handling, cargo restraint, and hazards of misloading and require all operators to provide initial and recurrent training for cargo handling personnel consistent with this guidance.

Completion Date: September 5, 2005

DOT Status: AC*

NTSB Status: OAAA (January 3, 2006)

Implementation Description: On June 20, 2005, the FAA issued AC 120-85, Air Cargo Operations, which contains recommended guidance for cargo handlers and a recommended training syllabus. The FAA also developed Air Cargo Operations Course 21059, based on the information contained in AC 120-85. This course is part of the training provided during the first 18 months to a newly hired ASI. Additionally, over half of the U.S. carrier members of the International Airline Transport Association (IATA) attended the course along with representatives of Unit Load Device Group manufacturers.

As per the Boards request, the FAA researched the origin of the term “other operations personnel” and determined that cargo handlers are not part of “other operations personnel.” Therefore, the FAA cannot mandate training. Section 121.135 currently requires that the operator develop a manual that includes instructions and information necessary to allow personnel to perform his/her duties to the highest degree of safety.

Previously Missed Deadline(s): N/A

A-02-1. Require the manufacturers and operators of transport-category airplanes to establish and implement pilot training programs that: (1) explain the structural certification requirements for the rudder and vertical stabilizer on transport-category airplanes; (2) explain that a full or nearly full rudder deflection in one direction followed by a full or nearly full rudder deflection in the opposite direction, or certain combinations of sideslip angle and opposite rudder deflection can result in potentially dangerous loads on the vertical stabilizer, even at speeds below the design maneuvering speed; and (3) explain that, on some aircraft, as speed increases, the maximum available rudder deflection can be obtained with comparatively light pedal forces and small pedal deflections. The FAA should also require revisions to airplane and pilot operating manuals that reflect and reinforce this information. In addition, the FAA should ensure that this training does not compromise the substance or effectiveness of existing training regarding proper rudder use, such as during engine failure shortly after takeoff or during strong or gusty crosswind takeoffs or landings.

Completion Date: July 6, 2010

DOT Status: AC✓

NTSB Status: OUA (August 3, 2010)

Implementation Description: Following the issuance of this recommendation in 2002, the FAA immediately sent several ASIs to review the three main Airbus operators’ training programs. This review showed that none of the operators conduct training on the rudder in a way that could result in dangerous combinations of sideslip angles and rudder position or other flight parameters. Based on the review and the FAA’s familiarity with other air carrier training

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programs, the FAA is confident that the operators are not training their pilots to use dangerous combinations of sideslip angles and rudder position or other flight parameters.

On February 15, 2002, the FAA issued Notice N 8400.28, Transport Category Airplanes Rudder and Vertical Stabilizer Awareness, as an interim step to notify POIs of air carriers that operate transport category airplanes of the operational use of rudder pedals and the potential subsequent effects on the vertical stabilizer.

In addition, in 2002, the FAA contacted select manufacturers and industry organizations to inform them that it shares the Board's concern regarding pilot training on the use of the rudder in transport category airplanes. The manufacturers prepared flight technical operations bulletins that address the Board's and the FAA's shared concerns, and the bulletins were distributed to all of their operators. Training programs may be changed by mutual agreement of the operator and the FAA based on the technical operations bulletins. The FAA chose not to pursue rulemaking as the recommendation suggests.

On October 25, 2005, the FAA issued SAFO 05002, Multiple Full Deflection, Alternating Flight Control Inputs. This SAFO urged directors of safety, directors of operations, fractional ownership program managers, and pilots of transport-category airplanes to familiarize themselves with the location, availability, and content of the airplane URTA, and to pay particular attention to the cautions against control reversals and pilot-induced oscillations that are repeated throughout the training aid.

The FAA published InFO 10010, Enhanced Upset Recovery Training, on July 6, 2010, which reiterated the merits and location of the industry produced URTA. The InFO also encouraged utilization of the URTA in an operator's training program.

Previously Missed Deadline(s): N/A

A-02-40. Establish the jackscrew assembly lubrication procedure as a required inspection item that must have an inspector's signoff before the task can be considered complete.

Completion Date: June 2, 2004

DOT Status: AC✓

NTSB Status: OAAA (January 13, 2005)

Implementation Description: The FAA notes that the Board classified SR A-02-40 Open-Acceptable Alternate Response pending the issuance of guidance to Principle Maintenance Inspectors (PMIs) regarding the establishment of the lubrication and end play measurement checks as a RII. In response to this and other recommendations, the FAA published and/or updated the following documents providing guidance to PMI's in regards to the establishment of

RIIs:

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- Flight Standards Handbook Bulletin For Airworthiness, HBAW 05-06, Guidance and Policy Addressing Required Inspection Items (RII); and
- FSIMS, Volume 3, General Technical Administration, Chapter 43 Evaluate a Continuous Airworthiness Maintenance Program, Section 2 Evaluating the Required Inspection Element of a Continuous Airworthiness Maintenance Program.

While neither of these documents is specific to jackscrew assembly lubrication procedures, they provide guidance as to the importance of properly performing maintenance tasks that are designated by the operator as RIIs. The RII procedures should be written to inspection personnel and clearly state, at a minimum, what to look at, how to look at it (method), what to compare it too, and what are acceptable limits. The method may be visual, functional, and/or operational and include such things as tests, checks and measurements.

It is the responsibility of the certificate holder (operator) to designate items of maintenance and alteration that must be inspected (required inspections), including at least those that could result in a failure, malfunction, or defect endangering the safe operation of the airplane, if not performed properly or if improper parts or materials are used (§ 121.369).

Due to the varied maintenance systems used and different configurations of the same model of aircraft operated by the various certificate holders, the regulations do not include a listing of the items, which the certificate holder must inspect on each aircraft. Each certificate holder must determine the list of RIIs and include them in its manual. In order to maintain its significance, the list of RIIs should not be over-inclusive. Instead, the certification holder should identify specific items of inspection for each aircraft (it is inappropriate to designate entire systems as RII.)

Since the accident, Boeing developed enhanced tools and associated procedures for the inspection and lubrication maintenance tasks affecting the horizontal stabilizer actuator assembly. The enhanced tools and procedures were approved for use and in fact mandated by Final Rule AD; McDonnell Douglas Model DC-9, Model MD-90-30, Model 717-200, and Model MD-88 Airplanes, in August 2000. The FAA, on March 3, 2004, published Flight Standards Information Bulletin for Airworthiness, FSAW 04-03A, McDonnell Douglas DC 9/MD80/90 and Boeing 717 Series Horizontal Stabilizer Jackscrew Assembly Overhaul Recordkeeping. This bulletin is a direct result of the jackscrew investigation stressing the importance of good record keeping and the ability of an overhaul shop to analyze data to validate the scheduled lubrication and endplay intervals. The Board was briefed on June 2, 2004, on the new procedures, including the fact that the lubrication of the jackscrew assembly is part of the end play measurement check procedure. The lubrication of the jackscrew is done more frequently than the end play check. The Boeing analysis indicates that if the lubrication was performed only when the endplay check was performed, the resulting wear over this interval would be sufficiently low to prevent catastrophic wear-out before the next end play check is due. This analysis in itself supports the FAA's contention that these procedures do not raise to a level that would support mandating them as a required inspection needing an inspector's sign-off.

Previously Missed Deadline(s): N/A

A-02-43. Require operators to supply the Federal Aviation Administration (FAA), before the implementation of any changes in maintenance tasks intervals that could affect critical aircraft components, technical data and analysis for each task demonstrating that none of the proposed changes will present any potential hazards, and obtain written approval of the proposed changes from the principal maintenance inspector and written concurrence from the appropriate FAA aircraft certification office.

Completion Date: May 14, 2009

DOT Status: AC*

NTSB Status: OUA (April 19, 2010)

Implementation Description: The process that manufacturers and airlines use to establish and revise scheduled maintenance tasks and intervals is well known and well documented. An industry-wide evaluation of these processes is not necessary. The FAA's December 19, 2003 letter outlined that existing regulations and planned activities would address this recommendation. The FAA continues to work on updating its policy, guidance, and information on the subject of the methodology for developing and managing scheduled maintenance tasks and intervals. The FAA updated airworthiness inspector training, FSIMS, ACs, inspector indoctrination training, and specific training for development and management of maintenance time limitations and intervals.

The FAA implemented Continuing Analysis and Surveillance (CASS) Training Course 25712 in September 2004. This course includes basic information on determining the effectiveness of each scheduled maintenance task and its associated interval in an air carrier's scheduled maintenance program. The methodology for determining the effectiveness of the EP check interval is wear rate tracking. CASS requirements also extend to analyzing wear rate data and implementing corrective action if necessary.

The FAA published AC 120-16E, Air Carrier Maintenance Programs, on September 11, 2008, and AC 120-79A, Developing and Implementing Continuing Analysis and Surveillance Systems, on September 7, 2010. The FAA also revised the CASS portion of New Aviation Safety Inspector Indoctrination Training 21055 in FY 2010, and it continuously updates information in directives, notices, and AC's to reflect and explain new methodologies used in the development of maintenance tasks and intervals.

Previously Missed Deadline(s): N/A

A-03-16. Survey all aircraft required by Federal regulation to have a flight data recorder to ensure that the data recorded meets the rate, range, and accuracy requirements specified in 14 Code of Federal Regulations Part 121.344, Appendix M.

Completion Date: March 28, 2008

DOT Status: AC*

NTSB Status: OAAA (July 1, 2008)

Implementation Description: The FAA is continuing its work on establishing processes for evaluation of part 121 aircraft operator's Flight Data Recorder System (FDRS) and correlation documentation. When this recommendation was first received, the FAA determined that an independent survey of all aircraft required by regulation to have a FDRS was not feasible due to the extensive man power and costs that would be required to accomplish such a survey. The FAA has been working to develop other actions that would satisfy the intent of this recommendation, along with continued surveillance to assure compliance with part 121, Appendix M requirements. The FAA explored the establishment of a voluntary program that would allow it to verify the correlation documentation of the various fleets and to sample data for compliance with the current part 121, Appendix M requirements. The program development has been underway for several years and has many challenges that must be overcome before such a program could begin. To prevent any further delay, the FAA developed an alternative approach using its ATOS.

FAA inspectors use ATOS to audit airline operators. ATOS establishes specific sets of questions the inspectors use to guide them through the audit. The questions are used to review an operator's program to ensure that it meets the associated regulations and policy. Through this audit process, the inspectors can identify areas of non-compliance and then work with the operators to ensure they correct these issues.

The FAA developed a temporary revision to the ATOS segment for FDRS. It focuses the inspector's audits to ensure that the operators:

1. Have and maintain correlation documentation;
2. Have a method to determine that the recorded parameters meet the rate range and accuracy requirements of the applicable regulations;
3. Meet the new § 121.346 filtered flight data regulations; and
4. Meet the data retention requirement.

The temporary revision allows the FAA to immediately begin to audit operators; these questions will eventually be incorporated into ATOS. This will allow the FAA to collect findings from the audits, and use these findings to determine the state of recorder systems in the industry and make adjustments to the FAA's policies as necessary. Also, depending on these findings, the FAA will periodically refine its ATOS questions to better guide the inspector's audits. This approach allows us to continually monitor the state of compliance of existing and future aircraft requirements.

The FAA plans to continue to work with industry on a voluntary correlation documentation verification program. The FAA still believes that there are benefits to having this program, not the least of which is the establishment of a repository of operator specific verified correlation documents. However, through ATOS, the FAA will leverage its compliance and enforcement program to ensure that the operators comply with the applicable flight recorder regulations. The

FAA believes that the use of ATOS to continually audit and monitor operator's compliance with the applicable FDR regulations meets the intent of this recommendation.

Previously Missed Deadline(s): N/A

A-03-32. Require all air carrier operators to either: 1) provide all pertinent maintenance personnel with the manufacturer's current installation drawings for pertinent airplanes, update those installation drawings as needed, and require use of those drawings during installation and/or assembly of that airplane's components; or 2) list the IPC on that operator's operation specifications, provide maintenance personnel with up-to-date IPCs for reference, continue to update those IPCs as needed, and require maintenance personnel to use the pertinent updated IPCs during installation and/or assembly of an airplane's components.

Completion Date: May 13, 2011

DOT Status: AC✓

NTSB Status: OUA (January 12, 2005)

Implementation Description: On October 29, 2010, the FAA issued a change to FSIMS, volume 3, chapter 43, Evaluate a Continuous Airworthiness Maintenance Program, which amends section 1, Air Carrier Maintenance Manual (work cards – page 8) to include the following:

...The air carrier should use the aircraft manufacturer's maintenance manual procedures and drawings as the basis for developing its own work cards. The air carrier should give special attention to work cards involving required inspections and flight control systems to ensure that they are accurate, and contain complete and relevant technical data and drawings. The air carrier should include discrete (separate or distinct) tasks with individual inspection sign-off requirements for post-rigging verification.

The FAA believes the issuance of this revision to FSIMS is equivalent to option one. This issuance satisfactorily addresses the issues pertaining to the air carrier's use of work cards to ensure that inspections are accurate and contain current, complete, and relevant technical data and drawings.

Previously Missed Deadline(s): N/A

A-04-8. Require 14 Code of Federal Regulations Part 121 air carriers to modify their existing maintenance manuals, if necessary, so that they contain procedures at the end of maintenance for a complete functional check of each critical flight system.

Completion Date: May 26, 2010

DOT Status: AC*

NTSB Status: OAA (November 23, 2010)

Implementation Description: 14 CFR Part 121 air carriers must accomplish their maintenance with the highest possible level of safety. This part requires that each aircraft released to service is airworthy and has been properly maintained for operation. They are required to have a manual that contains adequate instructions to ensure that aircraft are released to service in an airworthy condition. This includes instructions to perform any required checks to verify the effectiveness of any corrective actions taken prior to further flight. If any instructions are found to be ineffective, the air carrier must modify their existing manual to correct any deficiencies noted.

In its November 23, 2010 letter, the Board classified SR A-04-8 “Open-Acceptable Response” stating that “to complete the recommended action, the FAA will need to ensure that carriers incorporate all maintenance revisions that result from actions in response to SR A-04-7.” SR A-04-7 states:

Require manufacturers of aircraft operated under 14 Code of Federal Regulations Part 121 to identify appropriate procedures for a complete functional check of each critical flight system; determine which maintenance procedures should be followed by such functional checks; and modify their existing maintenance manuals, if necessary, so that they contain procedures at the end of maintenance for a complete functional check of each critical flight system.

Maintenance manuals are considered to be a living document, constantly changing and evolving, incorporating changes from service experience and input from operators. This would include any critical systems post-maintenance functional checks/tests that are developed as a result of evaluations from SR A-04-7. As previously stated, air carriers are required to have a manual that contains adequate instructions to ensure that aircraft are released to service in an airworthy condition. This includes instructions to perform any required checks to verify the effectiveness of any corrective actions taken prior to further flight.

Section 121.373, CASS, states in part, “each operator shall establish and maintain a system for the continuing analysis and surveillance of the performance and effectiveness of its inspection program and the program covering other maintenance, preventative maintenance, and alterations and for the correction of any deficiency in these programs.” CASS is a system that air carriers and commercial operators use to monitor, analyze, and optimize the performance and effectiveness of their maintenance programs. The high-level purpose of a CASS is to reduce or eliminate the likelihood of aircraft being approved for return to service when it is not airworthy through the continuous, system safety-based, closed-loop cycle of surveillance, investigation, data collection, analysis, corrective action, monitoring, and feedback of a CASS. Maintenance program deficiencies in manuals, job-task cards, and procedures should be continually monitored and updated to assure that any deficiencies are corrected in a timely manner. The FAA developed and published AC 120-79A, Developing and Implementing an Air Carrier Continuing Analysis and Surveillance System, to assist operators in developing and maintaining an effective CASS.

The FAA, through its comprehensive audit and surveillance system, monitors air carriers’ accepted maintenance programs to ensure that maintenance instructions are current and adequate. As manuals constantly change and evolve, the intent of this recommendation to ensure

maintenance manuals incorporate revisions can only be met through the audit and surveillance process by both the operator and the FAA.

Previously Missed Deadline(s): N/A

A-04-10. Require 14 Code of Federal Regulations Part 121 air carriers that use contractors to perform required inspection item (RII) maintenance tasks and inspections to have air carrier personnel who are physically present when a substantial amount of the RII planning, tasking, maintenance work, and inspections are performed and are readily available when they are not physically present and who ensure that the processes and procedures used by contractors to perform RII maintenance tasks and inspections are the same as those used by air carrier maintenance personnel.

Completion Date: February 1, 2011

DOT Status: AC✓

NTSB Status: OUA (October 12, 2005)

Implementation Description: Federal regulations are currently in place that prevent any person performing any item of work from also performing any required inspection of that work. Section 121.369, Manual Requirements, contains a list of items an operator is required to include in their manuals. These include:

- (a) A designation of the items of maintenance and alteration that must be inspected (required inspections), including at least those that could result in a failure, malfunction, or defect endangering the safe operation of the aircraft, if not performed properly or if improper parts or materials are used.
- (b) The method of performing required inspections and a designation by occupational title of personnel authorized to perform each required inspection.
- (c) Instructions to prevent any person who performs any item of work from performing any required inspection of that work.

Section 121.371, Required Inspection Personnel, further states:

- (a) No person may use any person to perform required inspections unless the person performing the inspection is appropriately certificated, properly trained, qualified, and authorized to do so.
- (b) No person may allow any person to perform a required inspection unless, at that time, the person performing that inspection is under the supervision and control of an inspection unit.
- (c) No person may perform a required inspection if he performed the item of work required to be inspected.
- (d) Each certificate holder shall maintain, or shall determine that each person with whom it arranges to perform its required inspections, maintains, a current listing of persons who have been trained, qualified, and authorized to conduct required inspections. The persons must be identified by name, occupational title, and the inspections that they are authorized to perform.

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The certificate holder (or person with whom it arranges to perform its required inspections) shall give written information to each person so authorized describing the extent of his responsibilities, authorities, and inspectional limitations. The list shall be made available for inspection by the Administrator upon request.

Note: Sections 135.427 and 135.429 contain similar language.

On October 29, 2010, the FAA issued Section 2 to FSIMS volume 3, chapter 43, Evaluate a Continuous Airworthiness Maintenance Program, which provides additional information, clarification and policy for evaluating the required inspection elements of the certificate holder's CAMP. An element in this new section further provides clarification to FAA inspectors that any person performing OJT may not perform the required inspection on that item of work. It also recommends that the certificate holder assign a qualified and authorized employee at the inspection site to oversee the performance of required inspections by other persons. In cases where the assigned air carrier employee cannot be physically present, there should be a method of contacting the employee. The applicable areas are as follows:

- **Persons Who Perform Any Item of Work Cannot Perform the Required Inspection:**

... Sections 121.369(b)(7) and 135.427(b)(7) require the certificate holder to include in its manual instructions to prevent any person who performs any item of work from performing any required inspection of that work. This includes any person who provides OJT to any person who performs an item of work. A primary concept of the RII function is that the person performing the item of work may not perform the required inspection on that item of work...

- **Contract Maintenance:**

Although the regulations allow the air carrier to use another person to perform its required inspections, it does not relieve the certificate holder of its responsibility for ensuring other persons perform the required inspections in accordance with the air carrier's procedures. Based on accident investigation findings on failed required inspections, the FAA highly recommends that the certificate holder assign a qualified and authorized employee at the inspection site to oversee the performance of required inspections by other persons. In cases where the assigned air carrier employee cannot be physically present at the work site such as during multiple shifts, there should be a method of contacting the assigned employee if any questions arise on a required inspection...

The FAA believes that the current regulatory requirements of §§ 121.369, 121.371, 135.427, and 135.429, and the additional guidance found in FSIMS, volume 3, chapter 43, section 2, satisfactorily addresses the issues pertaining to SR A-04-10.

Previously Missed Deadline(s): N/A

A-04-13. Require 14 Code of Federal Regulations Part 121 air carriers to implement a program in which carriers and aircraft manufacturers review all work card and maintenance manual instructions for critical flight systems and ensure the accuracy and usability of these instructions so that they are appropriate to the level of training of the mechanics performing the work.

Completion Date: May 25, 2010

DOT Status: AC*

NTSB Status: CUA (November 23, 2010)

Implementation Description: The FAA continues to believe that the new standardized definition of essential maintenance, along with part 121 air carriers' incumbent responsibility to ensure that their aircraft are released in an airworthy condition, the effectiveness of their manual system and training, including the completion of any work or task cards, and the air carriers' normal interface with the original equipment manufacture (OEM), effectively address the intent of the Board's recommendations. Air carriers are required under § 121.373 to establish and maintain a CASS for the continual analysis of their maintenance program. This includes the correction of any deficiencies in these programs which would include manuals and work instructions. The FAA issued updated guidance and training to its inspectors to assure that they are able to properly understand the fundamentals of an effective CASS program and to provide adequate surveillance of the carriers' program.

The FAA sponsored research in FY 2002 suggesting that the usability of maintenance manuals was a "significant issue." The FAA, in the ensuing years, has continued to sponsor research and issue guidance to both industry and its inspectors detailing the importance of HF and the accuracy and usability of work instructions.

Maintenance manuals and work cards are developed and maintained by individual air carriers. Work cards are not a regulatory requirement, but have become a best practice. They are considered part of the manuals and air carrier maintenance program. The introduction of technology (electronic documents) and the extensive work done in HF in maintenance in the past decade has significantly changed the perception of the maintenance manuals and work card usability.

Previously Missed Deadline(s): N/A

A-06-9. Revise applicable 14 Code of Federal Regulations Part 121 and 135 regulations to prohibit pilots from descending below the minimum descent altitude during nonprecision instrument approaches unless conditions allow for clear visual identification of all obstacles and terrain along the approach path or vertical guidance to the runway is available and being used.

Proposed Completion Date: The FAA has not yet set a completion date for this revision.

DOT Status: AIP

NTSB Status: OAAA

Implementation Description: The FAA finds that pertinent regulations are appropriate as written, but that clear guidance might be helpful to pilots who do not understand the significance of all of the rule language. Accordingly, the FAA plans to add language to AC 120-71A, Standard Operating Procedures for Flight Deck Crewmembers, Appendix 2, and to the AIM that will clearly explain a pilot's responsibilities before electing to descend below the minimum descent altitude.

Previously Missed Deadline(s): N/A

A-06-42. Develop visual and tactile training aids to accurately depict small amounts of upper wing surface contamination and require all commercial airplane operators to incorporate these training aids into their initial and recurrent training.

Completion Date: May 20, 2010

DOT Status: AC*

NTSB Status: CUA (August 31, 2010)

Implementation Description: The FAA provided references to several publicly available guidance documents issued or revised by the FAA to emphasize the identification and removal of even small amounts of contamination from the aircraft critical surfaces. These documents were issued with the intent of providing more specific guidance to the industry on this significant issue and addressing the concern raised by this recommendation. The revised documents were AC 120-60B, Ground Deicing and Anti-icing Program, issued on December 20, 2004, and the AIM. Documents issued to address the concern raised by the Board in this recommendation included, Notice N 8000.308, Reevaluation of Deicing/Anti-Icing Programs, issued on October 5, 2005, and SAFO 06002, Ground Deicing Practices for Turbine Aircraft in Nonscheduled 14 CFR Part 135 Operations and in Part 91, issued on March 29, 2006. Specific to the Board's recommendation on October 1, 2009, the FAA issued InFO 09016, Identifying Small Amounts of Frost, Snow, Ice or Slush on Aircraft and the Effects on Aircraft Control and Performance. The Final Rule, Removal of Regulations Allowing for Polished Frost, became effective February 1, 2010, and removed the allowance for polished frost from §§ 91.527, 135.227, and 125.221. This rule change should help remedy the false belief that operations with small amounts of frost are acceptable. The FAA recognizes that these guidance documents and rule changes do not specifically address the Board's request for the development and use of visual and tactile training aids, but the FAA believes these documents provide the same safety benefit.

The FAA has not discounted the Board's recommendation for the development of visual and tactile training aids; the FAA has discussed this across the relevant lines of business and determined that it is not feasible to develop training aids to cover all possible contamination conditions. If training aids do not address all possible combinations of aircraft surface textures and contaminate conditions, then the unintended consequence of negative training may occur. The best training aid for any particular aircraft is the aircraft itself. The FAA discusses the use of an aircraft for training in InFO 09016, which addresses the recognition and removal of even

very small amounts of contamination from the critical surfaces of an aircraft. Additionally, the FAA is concerned that it does not have a process or specific authorization to control the production, quality, and accuracy of such training aids. Without the ability to provide the necessary quality control of these training aids, the FAA is again concerned that the risk for negative training outweighs the benefit.

In summary, the FAA previously provided guidance to operators and pilots to have procedures to detect small amounts of contamination on the critical surfaces of the aircraft and has emphasized the necessity for the removal of all levels of contamination prior to flight. The recent rule changes that removed the allowance for polished frost, further address the false impression by some that small amounts of frost are acceptable for operations. Additionally, the InFO provides more detailed guidance on recommended contamination recognition techniques and reemphasizes the need to remove all contamination from aircraft critical surfaces, regardless of how spotty or thin the contamination may be. This InFO calls for the use of an actual aircraft as a training tool instead of a training aid. The FAA does not believe a training aid that accurately represents the various aircraft surface textures and forms, thicknesses, and spottiness of contamination can be developed.

Previously Missed Deadline(s): N/A

A-06-51. Require all operators of turbopropeller-driven airplanes to instruct pilots, except during intermittent periods of high workload, to disengage the autopilot and fly the airplane manually when operating in icing conditions.

Completion Date: August 25, 2010

DOT Status: AC*

NTSB Status: CUA (March 1, 2011)

Implementation Description: The FAA carefully considered this recommendation and weighed the safety benefits of such a requirement against the potential added risk that it would introduce. In evaluating this recommendation, the FAA accounted for the fact that operating in icing conditions, for properly equipped and certificated aircraft, is a normal operating condition, which is safely encountered daily during the winter season. In contrast, significant aircraft performance degradation or loss of control effectiveness is associated with severe icing conditions or flight for extended periods of time in heavy icing conditions. Both of these are rare conditions and not part of normal operating procedures. The FAA feels that prohibiting the use of the autopilot during normal icing operations would unnecessarily increase the risk of other forms of accidents or incidents introduced by the higher workload of manually flying the aircraft. The added attention required by the flightcrew to manually fly the aircraft may distract them from recognizing significant ice accretions, performance degradation, and proper operation of the de/anti-icing systems. Therefore, the FAA did not require pilots of all turbo propeller airplanes to turn the autopilot off in icing conditions.

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To address the Board's and FAA's shared concerns over proper use of the autopilot system in icing conditions, the FAA has taken the following actions:

- On November 1, 2006, the FAA published SAFO 06016, In-Flight Icing, Turbo Propeller Powered Airplanes. The SAFO indicates pilots should follow approved guidance for use of the autopilot in icing conditions;
- On December 31, 2007, the FAA published AC 91-74A, Pilot Guide: Flight In Icing Conditions; and
- Additionally, the FAA issued approximately 40 ADs for aircraft with pneumatic de-icing boots and unpowered aileron roll controls, including AD; Saab Model SAAB SF340A and SAAB 340B (Including Variant 340B (WT)) Series Airplanes, effective March 27, 2008. These ADs required the aircraft manufacturer to place in the AFM, visual cues for recognizing severe icing, a requirement for immediately exiting severe icing conditions if encountered, and the prohibition of the use of auto-pilot in severe icing conditions.

Previously Missed Deadline(s): N/A

A-07-9. Require that all 14 Code of Federal Regulations Part 121 operators incorporate into their oversight programs periodic Line Operations Safety Audit observations and methods to address and correct findings resulting from these observations.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: P.L. 111-216, section 215, requires the FAA to conduct rulemaking to “require all part 121 air carriers to implement a SMS.” The rulemaking must consider, at a minimum, including an ASAP, FOQA, LOSA, and an AQP as part of the SMS. The Safety Management Systems for Part 121 Certificate Holders NPRM was released for public comment on November 5, 2010.

The FAA reviewed the LOSA program and finds it would be useful to meet the requirements to regularly review the safety performance of the organization (§ 5.25(b)(5)), to monitor the effectiveness of safety risk controls (§ 5.25(c)(2)), and to monitor and measure the organization's safety performance (§ 5.71). However, based on the following, the FAA determined that it would not be appropriate to require LOSA for all certificate holders conducting part 121 operations.

- The FAA determined that participating in a LOSA program, may be one acceptable means to comply with the requirements of the proposed SMS rule. The FAA is in the process of reviewing comments on how air carriers that are currently voluntarily implementing LOSA

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programs could integrate these programs into an SMS plan, and the incremental costs and benefits of doing so.

- Air carriers that have not implemented a voluntary LOSA may be using audit tools that are more appropriately scaled to the size of their operation. Because there may be other, more effective means for conducting these audits, the FAA does not believe it is necessary to limit an air carrier to conducting audits and collecting data through a specific program like LOSA.

Previously Missed Deadline(s): N/A

A-07-37. Inform all pilots who use transponders or transponder/traffic alert and collision avoidance system (TCAS) units about the circumstances of this accident and the lack of a conspicuous warning to indicate the loss of collision protection resulting from a compromise in functionality of either the transponder or TCAS unit and ask all pilots who use transponders or transponder/TCAS units to become familiar with the annunciations currently used to indicate failure or lack of active functionality of these components.

Completion Date: August 6, 2007

DOT Status: AC*

NTSB Status: OAA (December 21, 2007)

Implementation Description: On July 3, 2007, the FAA issued SAFO 07005, Embraer Legacy/EMB 135, 140, 145- Be Careful Where You Put Your Foot, which addresses the circumstances surrounding the accident which generated this recommendation. The FAA did not address this information to all pilots because the circumstance of the inadvertent turning off of a TCAS transponder are unique and based on the ergonomic cockpit layout of the identified aircraft type. Therefore SAFO 07005 was addressed only to those operators.

Previously Missed Deadline(s): N/A

A-07-45. Require that all 14 Code of Federal Regulations Part 91K, 121, and 135 operators install on their aircraft cockpit moving map displays or an automatic system that alerts pilots when a takeoff is attempted on a taxiway or a runway other than the one intended.

Proposed Completion Date: The FAA is continuing to evaluate the operational feasibility of mandating moving map displays. A proposed completion date will be determined once the evaluation is complete.

DOT Status: AIP

NTSB Status: OUA (January 11, 2011)

Implementation Description: The FAA is continuing to evaluate the operational feasibility of mandating moving map displays. The FAA is committed to promoting the development and adoption of cockpit moving map displays, which shows “own-ship” position on the airport

surface. Industry standards for this function have been developed and published in RTCA/DO-257A, Minimum Operational Performance Standards for the Depiction of Navigational Information on Electronic Maps. The FAA incorporated those standards into TSO-C165, Electronic Map Display Equipment for Graphical Depiction of Aircraft Position, issued on September 30, 2003. Moving map capability has already been implemented in certain new production aircraft. On April 30, 2007, the FAA published additional guidance in AC 20-159, Obtaining Design and Production Approval of Airport Moving Map Display Applications Intended for Electronic Flight Bag Systems.

The FAA requested that RTCA develop standards for two related capabilities. Special Committee 214 is developing standards for the use of data link to send taxi clearances. Special Committee 186 developed RTCA DO-317, standards for Airport Surface Situational Awareness equipment that uses the receive capability of Automatic Dependent Surveillance – Broadcast. The FAA incorporated those standards into TSO-C195, Avionics Supporting Automatic Dependent Surveillance – Broadcast (ADS-B) Aircraft Surveillance Applications (ASA), on September 27, 2010.

Additionally, the FAA, as part of the Capstone 3 program, contracted with six U.S. air carriers to fund in cockpit runway safety systems. Up to 20 aircraft per carrier were outfitted with airport moving maps that displayed own-ship position. In exchange for this new equipment, these carriers are providing the FAA operational data to evaluate the effectiveness of installed equipment. Data collection will continue through September 2011. The FAA will then need to evaluate the data for the operational use and safety impact of this technology before considering any future actions. The FAA will continue to evaluate its actions for full adoption of this recommendation.

Previously Missed Deadline(s): N/A

A-07-57. Immediately require all 14 Code of Federal Regulations Part 121, 135, and 91 subpart K operators to conduct arrival landing distance assessments before every landing based on existing performance data, actual conditions, and incorporating a minimum safety margin of 15 percent.

Proposed Completion Date: A proposed completion date cannot be determined since this rulemaking project has been delayed due to other rulemaking priorities resulting from P.L. 111-216.

DOT Status: AIP

NTSB Status: CUA (January 31, 2011)

Implementation Description: On August 31, 2006, the FAA published SAFO 06012, Landing Performance Assessments at Time of Arrival (Turbojets). A survey of part 121 operators indicated that 92 percent of air carriers adopted the recommended practices. The FAA plans to supersede that SAFO with an amended version that would explicitly recommend revising

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electronic displays, placarding electronic devices, or including highlighted statements in performance manuals.

While the Board recommended an immediate requirement, the FAA opted to partially adopt this recommendation and pursued a voluntary approach initially. It then established the Takeoff and Landing Performance (TALPA) ARC to take the issues identified by the Board and further explore them. The TALPA ARC recommended comprehensive changes to aircraft certification rules in parts 23, 25, and 26; operating rules in parts 1, 91, 121, 125, and 135; airport rules in part 139; as well as FAA internal air traffic control procedures and orders. Due to other rulemaking priorities as a result of P.L. 111-216, initiating rulemaking regarding landing distance assessments has been delayed.

Previously Missed Deadline(s): N/A

A-07-58. Require all 14 Code of Federal Regulations Part 121 and 135 operators to ensure that all on board electronic computing devices they use automatically and clearly display critical performance calculation assumptions.

Proposed Completion Date: A proposed completion date cannot be determined since this rulemaking project has been delayed due to other rulemaking priorities resulting from P.L. 111-216.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On August 31, 2006, the FAA published SAFO 06012, Landing Performance Assessments at Time of Arrival (Turbojets). A survey of part 121 operators indicates that 92 percent of air carriers have adopted the recommended practices. The FAA plans to supersede this SAFO with an amended version that would explicitly recommend revising electronic displays, placarding electronic devices, or including highlighted statements in performance manuals.

The TALPA ARC recommended comprehensive changes to aircraft certification rules in parts 23, 25, and 26; operating rules in parts 1, 91, 121, 125, and 135; airport rules in part 139; as well as FAA internal ATC procedures and orders. Due to other rulemaking priorities as a result of P.L. 111-216, initiating rulemaking regarding landing distance assessments has been delayed. The FAA will continue to evaluate its actions for full adoption of this recommendation.

Previously Missed Deadline(s): N/A

A-07-59. Require all 14 Code of Federal Regulations Part 121 and 135 operators to provide clear guidance and training to pilots and dispatchers regarding company policy on surface condition and braking action reports and the assumptions affecting landing distance/stopping

margin calculations, to include use of airplane ground deceleration devices, wind conditions and limits, air distance, and safety margins.

Proposed Completion Date: A proposed completion date cannot be determined since this rulemaking project has been delayed due to other rulemaking priorities resulting from P.L. 111-216.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The TALPA ARC recommended comprehensive changes to aircraft certification rules in parts 23, 25, and 26; operating rules in parts 1, 91, 121, 125, and 135; airport rules in part 139; as well as FAA internal ATC procedures and orders. Any changes to initial training would flow from changes to rules and policy. In addition, it would be necessary for many of these changes to be coordinated with ICAO, Transport Canada, EASA, and other foreign regulatory authorities.

The TALPA ARC recommendations were presented to the FAA. The Runway Surface Condition Matrix developed by the TALPA ARC is currently being validated by the FAA through an FAA/industry partnership. This matrix provides a common language for all users of runway surface condition information and is the cornerstone to most of the TALPA ARC recommendations. It is the first necessary step in development of associated rule and policy changes. ICAO and EASA were briefed regarding the TALPA ARC recommendations and the matrix process. Other than validation of the matrix, this rulemaking project has been delayed to allocate resources to rulemaking projects mandated under P.L. 111-216. The FAA will continue to evaluate its actions for full adoption of this recommendation.

Previously Missed Deadline(s): N/A

A-07-61. Require all 14 Code of Federal Regulations Part 121, 135, and 91 subpart K operators to accomplish arrival landing distance assessments before every landing based on a standardized methodology involving approved performance data, actual arrival conditions, a means of correlating the airplane's braking ability with runway surface conditions using the most conservative interpretation available, and including a minimum safety margin of 15 percent.

Proposed Completion Date: A proposed completion date cannot be determined since this rulemaking project has been delayed due to other rulemaking priorities resulting from P.L. 111-216.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On June 7, 2006, the FAA published a policy statement in the Federal Register supporting this recommendation. On August 31, 2006, the FAA published SAFO 06012, Landing Performance Assessments at Time of Arrival (Turbojets). A survey of part 121 operators indicates that 92 percent of air carriers have adopted the recommended

practices. In the winter of 2009-2010 and 2010-2011, the FAA collected survey data from 10 airports in Alaska and 28 airports in the lower 48 states. This program involves accurate and consistent runway surface contamination determination and the effective communication of this information to appropriate parties.

The TALPA ARC recommended comprehensive changes to aircraft certification rules in parts 23, 25, and 26; operating rules in parts 1, 91, 121, 125, and 135; airport rules in part 139; as well as FAA internal ATC procedures and orders. Due to other rulemaking priorities as a result of P.L. 111-216, initiating rulemaking regarding landing distance assessments has been delayed. The FAA will continue to evaluate its actions for full adoption of this recommendation.

Previously Missed Deadline(s): N/A

A-07-63. Establish a minimum standard for 14 Code of Federal Regulations Part 121 and 135 operators to use in correlating an airplane's braking ability to braking action reports and runway contaminant type and depth reports for runway surface conditions worse than bare and dry.

Proposed Completion Date: A proposed completion date cannot be determined since this rulemaking project has been delayed due to other rulemaking priorities resulting from P.L. 111-216.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The TALPA ARC recommended comprehensive changes to aircraft certification rules in parts 23, 25, and 26; operating rules in parts 1, 91, 121, 125, and 135; airport rules in part 139; as well as FAA internal ATC procedures and orders. Any changes to initial training would flow from changes to rules and policy. In addition, it would be necessary for many of these changes to be coordinated with ICAO, Transport Canada, EASA, and other foreign regulatory authorities.

The TALPA ARC recommendations were presented to the FAA. The Runway Surface Condition Matrix developed by the TALPA ARC is currently being validated by the FAA through an FAA/industry partnership. This matrix provides a common language for all users of runway surface condition information and is the cornerstone to most of the TALPA ARC recommendations. It is the first necessary step in development of associated rule and policy changes. ICAO and EASA were briefed regarding the TALPA ARC recommendations and the matrix process. Other than validation of the matrix, this rulemaking project has been put on hold in order to allocate resources to rulemaking projects mandated under P.L. 111-216. The FAA will continue to evaluate its actions for full adoption of this recommendation.

Previously Missed Deadline(s): N/A

A-08-18. Require 14 Code of Federal Regulations Part 121, 135, and Part 91 subpart K operators to have a written policy emphasizing that either pilot can make a go-around callout and that the response to the callout is an immediate missed approach.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA issued SAFO 10005, Go-Around Callout and Immediate Response, on March 1, 2010. As follow-up action to the SAFO, the FAA issued Notice N 8900.151, Verification of Go-Around Callout Written Policy (Parts 121, 135, and 91K), on March 25, 2011. Based on the POI inputs into the Program Tracking and Reporting Subsystem (PTRS), the FAA can better assess voluntary implementation of the recommended policy. Additionally, ACs 120-71A, Standard Operating Procedures for Flight Deck Crewmembers, and 120-74A, Parts 91, 121, 125, and 135 Flightcrew Procedures during Taxi Operations, were revised and are currently in internal coordination. The FAA anticipates publication in FY 2012.

Previously Missed Deadline(s): N/A

A-08-41. As part of the Takeoff/Landing Performance Assessment Aviation Rulemaking Committee, address the need for initial training on the rationale for and criticality of conducting landing distance assessments before landing on contaminated runways.

Proposed Completion Date: A proposed completion date cannot be determined since this rulemaking project has been delayed due to other rulemaking priorities resulting from P.L. 111-216.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The TALPA ARC recommended comprehensive changes to aircraft certification rules in parts 23, 25, and 26; operating rules in parts 1, 91, 121, 125, and 135; airport rules in part 139; as well as FAA internal ATC procedures and orders. Any changes to initial training would flow from changes to rules and policy. In addition, it would be necessary for many of these changes to be coordinated with ICAO, Transport Canada, EASA, and other foreign regulatory authorities.

The TALPA ARC recommendations were presented to the FAA. The Runway Surface Condition Matrix developed by the TALPA ARC is currently being validated by the FAA through an FAA/industry partnership. This matrix provides a common language for all users of runway surface condition information and is the cornerstone to most of the TALPA ARC recommendations. It is the first necessary step in development of associated rule and policy changes. ICAO and EASA were briefed regarding the TALPA ARC recommendations and the matrix process. Other than validation of the matrix, this rulemaking project has been put on hold.

in order to allocate resources to rulemaking projects mandated under P.L. 111-216. The FAA will continue to evaluate this recommendation for full adoption.

Previously Missed Deadline(s): N/A

A-08-79. Require all operators of Airbus single-aisle and Bombardier CL-600 airplane models to revise existing aircraft maintenance manual procedures and maintenance inspection documents to require a dual inspection signoff to confirm that engine fan cowls are latched after completing any engine maintenance that involves the opening of an engine fan cowl.

Completion Date: August 20, 2009

DOT Status: AC✓

NTSB Status: OAAA (July 31, 2009)

Implementation Description: In the absence of rulemaking, the FAA cannot require an operator to have a specific RII. The FAA does, however, provide guidance to operators in the form of InFOs, Notices, and SAFOs. While these documents are not mandatory, the FAA expects operators to evaluate and incorporate the guidance into their maintenance/inspection programs, as necessary, to continue to operate to the highest degree of safety. Therefore, the FAA recommends that operators include the guidance within these documents in their § 121.369(b)(2) required manual.

The FAA issued Notice N 8900.91, Separation of Engine-Fan Cowls During Flight, on August 20, 2009. This notice provided guidance for all ASIs responsible for air carriers operating Airbus SA A-319-132 and Bombardier CL-600-2B19 model airplanes to educate operators about revising their maintenance programs to include dual inspection signoffs or a RII signoff in the aircraft log. As described in further detail in the FAA's response to A-08-82, Bombardier has included dual inspection signoffs, while Airbus modified the design of engine-fan cowl latches. The FAA utilized data contained in Service Difficulty Reports (SDRs), operator's reliability, and CASS to verify that these and other corrective actions and recommendations have been incorporated into operators' programs.

Previously Missed Deadline(s): N/A

A-08-80. Require all operators of Airbus single-aisle and Bombardier CL-600 airplane models to require maintenance personnel to inform flight crews when engine fan cowls have been opened before flight.

A-08-81. Require all operators of Airbus single-aisle and Bombardier CL-600 airplane models to provide guidance to maintenance personnel and flight crews on how to inspect engine fan cowls to verify that they are latched properly.

Completion Date: August 20, 2009

DOT Status: AC✓**NTSB Status:** OUA (A-08-80) and OAAA (A-08-81)
(Both December 31, 2009)

Implementation Description: The FAA published InFO 09013, Separation of the Engine-Fan Cowl on Certain Aircraft During Flight, on July 13, 2009. This InFO provides information addressing the problems associated with improperly latched engine-fan cowls to all part 121 and 135 certificate holders. This InFO recommends that all air carriers, who operate Airbus SA A-319-132 and Bombardier CL-600-2B19 model airplanes, develop a training program for maintenance personnel and flightcrews on inspection procedures to verify that the engine-fan cowl is latched. This InFO also recommends that operators revise their procedures to require maintenance personnel to inform flight crews when the engine-fan cowls have been opened before flight. Notice N 8900.91, as described in the FAA's response to SR A-08-79, also includes these training and flight-crew notification recommendations.

Previously Missed Deadline(s): N/A

A-09-66. When the research requested in Safety Recommendation A-09-64 is completed, require operators of short-haul, multisegment flights to incorporate the guidance requested in Safety Recommendation A-09-65 into their operating specifications to reflect the unique crew fatigue characteristics of these operators.

Proposed Completion Date: November 30, 2011**DOT Status:** AIP**NTSB Status:** OUA (June 8, 2010)

Implementation Description: The FAA determined that additional research into multisegment, short-haul flights was not necessary. However, the FAA has taken several actions to alternatively address this recommendation in part.

The FAA issued SAFO 09014, Concepts for Fatigue Countermeasures in Part 121 and 135 Short-Haul Operations, on September 11, 2009. The FAA also issued AC 120-100, The Basics of Aviation Fatigue, on June 7, 2010, which educates the aviation community from a scientific perspective regarding the effects of fatigue in aviation operations.

Fatigue is universal, regardless of the type of operation. Short-haul multisegment flying does have the potential for inducing fatigue. As a result, the Flightcrew Member Duty and Rest Requirements NPRM, issued on September 14, 2010, took into consideration multiple segments and reduced the length of the flight duty period based upon the start time and the number of segments assigned, which serves as a method to mitigate fatigue. The final rule is anticipated later in 2011.

Additionally, in response to P.L. 111-216, § 212(b), Fatigue Risk Management Plans, on August 19, 2010, the FAA issued InFO 10017, Fatigue Risk Management Plans (FRMP) for Part 121 Air Carriers – Part Two, which outlines the requirements of an air carrier's FRMP. The

air carrier's FRMP must outline how they will manage and mitigate day-to-day flightcrew member fatigue to improve flightcrew alertness and reduce performance errors, and is based upon the type and kind of operations being conducted within a regulatory structure. The air carrier's FRMP policies and procedures should focus on the air carrier's specific kind of operations and the type of operations.

Previously Missed Deadline(s): N/A

A-09-70. Convene a meeting of industry, research, and government authorities, including international representatives, to develop guidance on industry best practices in operational areas (including checklist design, training, and procedures) that relate to flight crews properly configuring airplanes for takeoff and landing.

Proposed Completion Date: The FAA needs to evaluate the ARC's recommendations prior to determining a proposed completion date.

DOT Status: AIP

NTSB Status: OUA (November 29, 2010)

Implementation Description: On March 16, 2010, InFO 10002, Industry Best Practices Reference List, was published. InFO 10002 lists numerous, pertinent documents and studies by the FAA, NASA, ICAO, and academic and military research institutions. These resources focus on operations and procedures, including takeoff and landing procedures, checklist design and use, training programs, aeronautical decision making, crew resource management, human factors, and error trapping. The FAA on a regular basis reviews air carriers' checklists, training programs, and other procedures to ensure best practices that are appropriate are incorporated and adopted.

In response to P.L. 111-216, the FAA charted the Flightcrew Member Training Hours Requirement Review ARC, which is to, in part, develop best practices for air carriers to train procedures, takeoffs and landings, and crew coordination, which may address this recommendation. The FAA received the ARC's recommendations in May 2011 and provided a report to Congress on the ARC report. The FAA will evaluate the ARC's recommendations prior to determining if full adoption of this recommendation is appropriate.

Previously Missed Deadline(s): N/A

A-09-120. Require operators to implement the manufacturers' guidance asked for in Safety Recommendation A-09-119 regarding which circuit breakers pilots need to identify quickly and pull easily during abnormal or emergency situations in their airplanes.

Proposed Completion Date: Once the FAA has completed its evaluation and determined its plan of action to address this recommendation, a proposed completion date will be established.

DOT Status: AIP**NTSB Status:** ORR

Implementation Description: The FAA is currently evaluating the role of circuit breakers and associated guidance in all phases of flight to include emergency and abnormal procedures. Once the FAA has completed its evaluation, it will determine what the next steps are to address this recommendation, including if full adoption is appropriate.

Previously Missed Deadline(s): N/A

A-10-16. Require all 14 Code of Federal Regulations Part 121, 135, and 91K operators to address fatigue risks associated with commuting, including identifying pilots who commute, establishing policy and guidance to mitigate fatigue risks for commuting pilots, using scheduling practices to minimize opportunities for fatigue in commuting pilots, and developing or identifying rest facilities for commuting pilots.

Proposed Completion Date: The FAA does not have a timeline established for part 135 fatigue rulemaking and will give consideration to fatigue rules for part 91K operations. Until that determination is established, a completion date cannot be determined.

DOT Status: AIP**NTSB Status:** OAA

Implementation Description: On September 14, 2010, the FAA published its Flightcrew Member Duty and Rest Requirements NPRM for public comment. Along with this NPRM, the agency published on the docket two ACs for comment entitled Fitness for Duty and Fatigue Training. First, the two sections within the NPRM place responsibility of the flightcrew member and joint responsibility between the certificate holder and the flightcrew member to ensure the flightcrew member is properly rested and fit to perform their assigned duties. Secondly, the NPRM proposes an initial and annual recurrent fatigue education and awareness component to educate flightcrew members, schedulers, dispatchers, persons with operational control, and individuals with management oversight responsibilities of those areas. In support of the NPRM, the Fatigue Training AC outlines requirements for the fatigue education and awareness training component and the Fitness for Duty AC outlines the requirements for a flightcrew member to be fit for duty and establishes a standard used to determine the fitness of commuting flightcrew members.

The FAA issued AC 120-100, Basics of Aviation Fatigue, to educate the aviation community on the effects of fatigue, AC 120-103, Fatigue Risk Management Systems for Aviation Safety, and SAFO 09014, Concepts for Fatigue Countermeasures in Part 121 and 135 Short-Haul Operations, addressing fatigue countermeasures such as the use of rest facilities.

In response to P.L. 111-216, the FAA developed and issued statutory guidance for FRMPs. The FRMP is a plan developed and implemented by the air carrier to collect information, manage, and mitigate flight crewmember fatigue throughout its operation within the current regulatory structure for flight, duty, and rest limitations. Two important components of the FRMP are the

establishment of a “just culture” where flight crewmembers do not have to feel fear of retribution for reporting fatigue occurrences and the associated circumstances leading to the fatigue event. Secondly, the FRMP establishes a “safety culture” that defines a minimum threshold or level of safety that will be acceptable for each organization. Any condition less than that threshold level will need to be mitigated to bring the condition to the acceptable level. This is normally accomplished through policy, procedure, and root-cause analysis for continual evaluation of the effectiveness of the FRMP. The combination of fatigue reporting and fatigue mitigation will address the effects of commuting at an individual air carrier. As of August 1, 2011, the FAA has accepted FRMPs for all part 121 air carriers.

Also in response to P.L. 111-216, the FAA commissioned a study through the National Academy of Sciences on pilot commuting. The study commenced in November 2010 and the FAA was briefed on the findings in June 2011. The FAA will continue to evaluate its actions for full adoption of this recommendation. The study is available online at http://www.nap.edu/catalog.php?record_id=13201.

Previously Missed Deadline(s): N/A

A-10-17. Require 14 Code of Federal Regulations Part 121, 135, and 91K operators to document and retain electronic and/or paper records of pilot training and checking events in sufficient detail so that the carrier and its principal operations inspector can fully assess a pilot's entire training performance.

A-10-18. Require 14 Code of Federal Regulations Part 121, 135, and 91K operators to include the training records requested in Safety Recommendation A-10-17 as part of the remedial training program requested in Safety Recommendation A-05-14.

Proposed Completion Date: Once the FAA has received the ARC's report and established a schedule for implementation, a proposed completion date can be determined.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: After reviewing this recommendation, the FAA requested clarification from the Board's staff on the intent of the recommendation. Based on a discussion with the Board's staff, the FAA understands that the Board believes pilot electronic training records are not specific or detailed enough to provide sufficient review of a pilot's performance to supplement the Pilot Records Improvement Act of 1996 (PRIA), so inspectors can determine a pilot's progress. The Board believes enhanced electronic records along with detailed paper records would assist POIs and operators in identifying pilots who require remedial training.

In October 2010, the FAA chartered the PRD ARC as a result of P.L. 111-216. The ARC's recommendations were provided to the FAA in July 2011. The FAA initiated development of a PRD as mandated by P.L. 111-216. The FAA needs to evaluate the ARC's recommendations

prior to determining if a rulemaking will follow and if full adoption of this recommendation is appropriate.

Previously Missed Deadline(s): N/A

A-10-19. Require 14 Code of Federal Regulations Part 121, 135, and 91K operators to provide the training records requested in Safety Recommendation A-10-17 to hiring employers to fulfill their requirement under the Pilot Records Improvement Act.

Proposed Completion Date: Once the FAA has received the ARC's report and established a schedule for implementation, a proposed completion date can be determined.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The January 2010 Call to Action Final Report states that while the FAA works with Congress to pursue appropriate amendments to PRIA, air carriers should implement a policy of asking pilot applicants for voluntary disclosure of FAA records, including notices of disapproval for evaluation events. On July 2, 2010, the FAA published AC 120-68E, Pilot Records Improvement Act, to reflect the FAA's expectations in this regard.

In October 2010, the FAA chartered the PRD ARC as a result of P.L. 111-216. The ARC's recommendations were provided to the FAA in July 2011. The FAA needs to evaluate the ARC's recommendations prior to determining if a rulemaking will follow and if full adoption of this recommendation is appropriate. The FAA is currently developing a schedule for the possible rulemaking and automation, and the Office of Management and Budget required elements of this project.

Previously Missed Deadline(s): N/A

A-10-20. Develop a process for verifying, validating, auditing, and amending pilot training records at 14 Code of Federal Regulations Part 121, 135, and 91K operators to guarantee the accuracy and completeness of the records.

Proposed Completion Date: Once the FAA has received the ARC's report and established a schedule for implementation, a proposed completion date can be determined.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA currently inspects training records as part of its required air carrier surveillance. However, the FAA will review the existing PRIA requirements and FAA guidance for documenting and retaining records of pilot training and checking. In

addition, the FAA chartered the PRD ARC as a result of P.L. 111-216 in October 2010. The ARC's recommendations were provided to the FAA in July 2011.

Previously Missed Deadline(s): N/A

A-10-22. Require 14 Code of Federal Regulations (CFR) Part 121, 135, and 91K operators and 14 CFR Part 142 training centers to develop and conduct training that incorporates stalls that are fully developed; are unexpected; involve autopilot disengagement; and include airplane-specific features, such as a reference speeds switch.

Proposed Completion Date: Once the FAA has the SPAW ARC report and the ICATEE recommendations, it will consider the recommendations and determine an appropriate course of action. At that time, a proposed completion date can be determined.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: In March 2010, the FAA participated in the Industry Stall and Stick Pusher WG to explore and develop options relative to stall and stick pusher training, testing, and checking. The following are products of this work group:

- SAFO 10012, Possible Misinterpretation of the Practical Test Standards (PTS) Language "Minimal Loss of Altitude," issued on July 6, 2010;
- Stall training AC, currently in FAA coordination;
- Revisions to the Airline Transport Pilot (ATP) and Type Rating Practical Test Standards; internal coordination of the change began in May 2011; and
- Issue a notice to inspectors; internal coordination began in June 2011.

The FAA published InFO 10010, Enhanced Upset Recovery Training, on July 6, 2010, which highlighted the merits and location of the industry produced URTA. The InFO also encouraged utilization of the URTA in an operator's training program.

The FAA is participating in the ICATEE, which is researching methods and potential technical standards that may be incorporated into part 60 to expand the simulator operational envelope, enabling more realistic upset and stall training. This committee is also proposing specific improvements in both training and technology for effective upset recognition, avoidance, and recovery. Finally, five deliverables are anticipated for completion in November 2011, which are a pilot handbook, an instructor handbook, a regulator handbook, research & technology requirements, and an update to simulator training requirements.

The FAA chartered the SPAW ARC in September 2010. The SPAW ARC developed recommendations to identify the best procedures and training practices that will enable air carrier pilots to accurately and consistently respond to unexpected stick pusher activations, icing conditions, and microburst and windshear events. The final recommendations were provided to the FAA in July 2011. The FAA will take the SPAW ARC recommendations and provide a

report to Congress and the Board by November 30, 2011, as mandated by P.L. 111-216. The FAA needs to evaluate the ARC's recommendations prior to determining if full adoption of this recommendation is appropriate.

Previously Missed Deadline(s): N/A

A-10-26. Develop more stringent standards for surveillance of 14 Code of Federal Regulations (CFR) Part 121, 135, and 91K operators that are experiencing rapid growth, increased complexity of operations, accidents and/or incidents, or other changes that warrant increased oversight, including the following: (1) verify that inspector staffing is adequate to accomplish the enhanced surveillance that is promulgated by the new standards, (2) increase staffing for those certificates with insufficient staffing levels, and (3) augment the inspector staff with available and airplane-type-qualified inspectors from all Federal Aviation Administration regions and 14 CFR Part 142 training centers to provide quality assurance over the operators' aircrew program designee workforce.

Proposed Completion Date: September 30, 2013

DOT Status: AIP

NTSB Status: OAA

Implementation Description: Rapid growth, increased complexity of operations, accidents and/or incidents, and other significant changes can introduce hazards into an air carrier's operations. These hazards and their associated risks must be managed. SMS are formal processes and standards that air carriers can use for this purpose. The FAA first began work toward consideration of a SMS rule in 2007. Subsequent to those activities, PL 111-216 required that the FAA initiate rulemaking, issue an NPRM within 90 days, and issue a final rule within 24 months. The Safety Management Systems for Part 121 Certificate Holders NPRM was published on November 5, 2010. The final rule for part 121 operators is scheduled for publication in FY 2012. In the interim, the FAA initiated an SMS pilot project to encourage air carriers to implement voluntary SMS. As of April 29, 2011, there are 121 certificated operators in the SMS' pilot project, including 49 part 121 air carriers, 59 part 135 air carriers, 3 part 141 flight schools, and 10 part 145 repair stations.

The FAA is developing a new oversight system that will enable it to leverage its resources against each air carrier's SMS capabilities. The new system is called the Flight Standards Safety Assurance System (SAS). It is being developed under the auspices of the Systems Approach to Safety Oversight Program Office and will be deployed by September 30, 2013.

The FAA has also taken immediate steps to implement a Surveillance Priority Index (SPI) that considers rapid growth, increased complexity of operations, and accidents and/or incidents as part of a process to assist part 135 principal inspectors to prioritize their inspection activities. The SPI is currently undergoing further review for enhancement. Revised Order 1800.56 L, National Flight Standards Work Program Guidelines, is in the publication process. The ATOS Air Carrier Assessment Tool (ACAT) already includes rapid growth, increased complexity of

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operations, and accidents and/or incidents among 25 other risk indicators to aid part 121 principal inspectors in focusing on inspection areas where new hazards and increased risk may exist. Major revisions to the ATOS element structure and data collection tools were recently completed. The functionality of the SPI, ACAT, and ATOS data collection tools will be further refined and incorporated in the SAS.

The FAA recently introduced a new staffing tool called the AFS Staffing Tool and Reporting System (ASTARS). ASTARS enables the FAA to more accurately predict the inspector-staff resources needed to sustain oversight performance and to distribute available staff resources equitably and effectively. ASTARS enables us to more effectively monitor factors such as those mentioned in the recommendation and to determine appropriate, empirically valid staffing levels under changing environmental conditions. The FAA will continue to augment inspector staff with the services of experienced type rated operations inspectors available to the field under the Flight Standards Inspector Resource Program (FSIRP).

Previously Missed Deadline(s): N/A

A-10-31. Implement a process to document that all 14 Code of Federal Regulations Part 121, 135, and 91K operators have taken appropriate action in response to safety-critical information transmitted through the safety alert for operators process or another method.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA first indicated it would explore options for enhancing or modifying various oversight programs for the purposes of documenting operator response to safety-critical information transmitted through SAFOs and other methods. The intent of a SAFO is to disseminate important safety information that is often critical without causing undue burden on FAA inspectors; therefore the FAA does not intend to develop its own process for tracking operator action to safety-critical information.

The responsibility to implement any action recommended in a SAFO rests with the operator. Industry currently has a practice to view SAFOs and InFOs. On occasion, the FAA assesses industry's follow-up to a SAFO, but this is not a normal practice. As an alternative approach to meeting the intent of this recommendation, the FAA proposed for part 121 operators, a part 5 rule for SMS. The proposed rule will require part 121 operators to communicate safety information throughout their organization. This is a key element of SMS requiring the operator to conform and the FAA to perform oversight actions. The FAA published the Safety Management Systems for Part 121 Certificate Holders NPRM on November 5, 2010, and anticipates issuing a final rule requiring part 121 SMS in FY 2012.

Previously Missed Deadline(s): N/A

A-10-74. Require Airbus operators to expand the angle-of-attack-protection envelope limitations ground-school training to inform pilots about alpha-protection mode features while in normal law that can affect the pitch response of the airplane.

Proposed Completion Date: Once the FAA completes its review and determines its plan of action, a proposed completion date will be determined.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The information regarding alpha-protection features while operating in normal law is currently available and addressed during initial, upgrade, and recurrent ground school. The FAA will evaluate all available options for disseminating the recommended information to Airbus operators, and determine if it will fully adopt this recommendation

Previously Missed Deadline(s): N/A

A-10-123. Amend 14 Code of Federal Regulations Parts 121 and 135 to require each person who is less than 2 years of age to be restrained in a separate seat position by an appropriate child restraint system during takeoff, landing, and turbulence.

Completion Date: October 14, 2010

DOT Status: AC*

NTSB Status: OUA (January 31, 2011)

Implementation Description: The FAA determined it is not appropriate to mandate the use of a Child Restraint System (CRS) in aircraft at this time. In order to ensure that children can travel more safely on aircraft, the FAA amended its regulations several times to allow additional types of FAA-approved CRS' to be used in aircraft. The FAA also has an existing nationwide public education campaign to raise public awareness of using a CRS and seat belts. In addition, as part of the education campaign, the FAA developed a "Child Safety on Airplanes" website dedicated to informing passengers about seat belt use and child safety (http://www.faa.gov/passengers/fly_children/crs/).

Most recently, the FAA began using social media to engage in outreach to family/child magazine websites, child safety advocates and retailers, travel experts and magazine websites, travel booking websites, and travel planning sites in November 2010. This outreach emphasizes that proper use of CRS and seat belts may prevent injuries, especially in the event of unexpected turbulence. The FAA also added additional resources to its "Child Safety on Airplanes" website, such as a video to show the proper installation of CRS on aircraft in December 2010, and a video that show how to install a child aviation restraint system (CARES) child safety device in March 2011.

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In addition, the FAA amended AC 120-87B, Use of Child Restraint Systems on Aircraft, to incorporate updated guidance and information on the use of a CRS for aircraft operators and crewmembers on September 17, 2010. The FAA also recently published InFO 11007, Regulatory Requirements Regarding Accommodation of Child Restraint Systems – Update, to clarify regulations and provide updated information regarding the use of a CRS with detachable bases on aircraft, on March 10, 2011.

Previously Missed Deadline(s): N/A

A-99-23. Amend 14 Code of Federal Regulations Section 25.671(c)(3) to require that transport-category airplanes be shown to be capable of continued safe flight and landing after jamming of a flight control at any deflection possible, up to and including its full deflection, unless such a jam is shown to be extremely improbable.

Proposed Completion Date: June 30, 2014

DOT Status: AIP

NTSB Status: OUA (February 16, 2011)

Implementation Description: The issue of flight control jams is being carefully considered on current airplane certification programs. The FAA intends to publish an NPRM by December 2012 and publication of the final rule by June 2014 to address and close the recommendation.

The FAA is not adopting the recommendation as written because rulemaking will require that jamming be considered when a given flight control surface is in the “normally encountered position.” In some cases, this will not be a fully deflected position, as recommended by the Board. However, these flight control jams will be considered regardless of probability, which is more stringent than the recommendation.

Previously Missed Deadline(s): N/A

A-01-86. Develop and require implementation of procedures or airplane modifications that will provide the most effective means for crewmembers to gain access to areas behind interior panels for the purpose of applying extinguishing agent to hidden fires. As part of this effort, the FAA should evaluate the feasibility of equipping interior panels of new and existing airplanes with ports, access panels, or some other means to apply extinguishing agent behind interior panels.

Completion Date: May 25, 2010

DOT Status: AC*

NTSB Status: CUA (February 15, 2011)

Implementation Description: On January 8, 2004, the FAA issued AC 120-80, In-Flight Fires. This AC provides guidance on Halon extinguishers, the importance of appropriate crewmember training, the effective application of fire extinguishing agents behind interior panels, and the urgency of the crew’s action in dealing with such fires. In July 2007, the FAA Technical Center issued their research report, A Preliminary Examination of the Effectiveness of Hand-Held Extinguishers against Hidden Fires in the Cabin Overhead Area of Narrow-Body and Wide-Body Transport Aircraft. The Technical Center considered extinguishing ports within the interior of airplanes; however, their research showed it is not possible to determine where best to locate extinguishing ports. Additionally, on June 23, 2009, the FAA released a training video on in-flight fires and related topics via InFO 09010, which is available online at the FAA Technical Center’s website.

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The FAA did not adopt the recommendation as written for the following reasons:

1. Determining the location of a fire can be extremely difficult. The location of smoke in the cabin can be far removed from the location of the fire's source as smoke can migrate throughout hidden areas;
2. Aircraft interior panels protect passengers from electrical circuitry and so they are designed to be difficult to remove; and
3. Extinguishing ports would be ineffective against fires not located in the vicinity of the port. It is not possible to determine where best to locate extinguishing ports, as fire locations are unpredictable.

Previously Missed Deadline(s): N/A

A-03-15. Require that all Embraer 145, Embraer 135, Canadair CL-600 RJ, Canadair Challenger CL-600, and Fairchild Dornier 328-300 airplanes be modified with a digital flight data recorder system that meets the sampling rate, range, and accuracy requirements specified in 14 Code of Federal Regulations Part 121.344, Appendix M.

Completion Date: May 6, 2011

DOT Status: AC✓

NTSB Status: OUA (January 23, 2007)

Implementation Description: On March 21, 2007, the FAA issued Special Airworthiness Information Bulletin (SAIB) NM-07-20, Flight Data Recorders, recommending that all U.S. operators of Embraer 135 and 145 series airplanes incorporate the Embraer service bulletin necessary to bring the required flight data recording into compliance with §121.344, Appendix M. A Canadian AD was issued to correct an unrelated safety issue on Bombardier aircraft, and it requires changes that will also correct the flight data recording deficiencies. A corresponding FAA AD, AD; Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440) Airplanes, became effective May 6, 2011, and U.S. operators of affected Bombardier airplanes will have 18 months to accomplish the necessary changes.

The FAA is not adopting the recommendation as written because the FDR deficiencies outlined in this recommendation do not represent an unsafe condition per part 39. Accordingly, the FAA cannot require mandatory action to correct the flight data recorder deficiencies. The FAA is accomplishing the intent of the recommendation through other means.

Previously Missed Deadline(s): N/A

A-03-42. Require all manufacturers of transport-category airplanes to establish and validate maximum threshold values for positive and negative vertical and lateral G accelerations beyond

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which direct manufacturer oversight and intervention is required as a condition for returning the airplane to service.

Proposed Completion Date: December 31, 2011

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA worked with industry to develop the publication Best Practices Guide – Inspection Processes following High Load Events. This BPG establishes a standard by which inspection processes should be developed for all high load events, not just hard landings. This includes a process for operator contact with manufacturers and exchange of information.

The FAA also asked certain transport category airplane manufacturers to evaluate their maintenance manuals against the recommendations put together by the BPG WG. The FAA expects to complete its review of the updated maintenance manuals by December 2011.

Previously Missed Deadline(s): N/A

A-03-44. Require manufacturers of transport-category airplanes to immediately notify the appropriate certification authority of any event involving accelerations exceeding the threshold values (or that the manufacturer has reason to believe might have exceeded those thresholds) necessitating the intervention of the manufacturer, and provide all related loads assessment and inspection results.

Proposed Completion Date: December 31, 2011

DOT Status: AIP

NTSB Status: OUA (May 2, 2008)

Implementation Description: The FAA worked with industry to develop the Best Practices Guide – Inspection Processes following High Load Events. This BPG establishes a standard by which inspection processes should be developed for all high-load events, not just hard landings. This includes a process for operator contact with manufacturers and exchange of information.

The FAA also asked certain transport category airplane manufacturers to evaluate their maintenance manuals against the recommendations put together by the BPG WG. The FAA expects to complete its review of the updated maintenance manuals by December 2011.

Previously Missed Deadline(s): N/A

A-04-7. Require manufacturers of aircraft operated under 14 Code of Federal Regulations Part 121 to identify appropriate procedures for a complete functional check of each critical flight system; determine which maintenance procedures should be followed by such functional checks;

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and modify their existing maintenance manuals, if necessary, so that they contain procedures at the end of maintenance for a complete functional check of each critical flight system.

Proposed Completion Date: December 31, 2013

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA developed criteria for determining which functional checks or tests should be conducted after maintenance by surveying all manufacturers of part 25 aircraft on their process for selecting which post-maintenance functional tests should be conducted. The FAA is determining the best method to require manufacturers to have a process that includes the criteria developed to ensure that after maintenance, aircraft will be returned to service in a safe/airworthy condition.

Previously Missed Deadline(s): N/A

A-04-44. Require Airbus to develop a design modification for the A300-600 rudder travel limiter system so that it can respond effectively to rapid airspeed changes such as those that might be experienced during upsets and not be adversely affected by pedal forces, and issue an airworthiness directive to require the installation of that modification.

Next Major Milestone Date: May 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On July 27, 2010, Airbus provided the FAA with a proposal recommending visual and aural warnings instead of a rudder travel limiter system. These warnings would be activated in certain cases where the pilot reverses the rudder pedals and would direct the pilot to release the rudder pedals. The FAA is reviewing this new design proposal to assess its expected efficacy and to determine whether or not it adequately addresses the safety concerns. If accepted, this proposal should meet the intent of this recommendation, although not the exact language of the recommendation. The FAA released the AD; Airbus Model A300 B4-600, B4-600R, and F4-600R Series Airplanes, and Model C4-605R Variant F Airplanes (Collectively Called A300-600 Series Airplanes); and Model A310 Series Airplanes NPRM, on May 19, 2011, mandating design changes to address the safety concern using a method the FAA approves. The NPRM will be followed by an AD after public comment. At that time, the FAA can better determine if it will fully adopt this recommendation.

Previously Missed Deadline(s): N/A

A-04-56. Modify 14 Code of Federal Regulations Part 25 to include a certification standard that will ensure safe handling qualities in the yaw axis throughout the flight envelope, including limits for rudder pedal sensitivity.

Next Major Milestone Date: December 31, 2015

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA conducted studies to understand the issues associated with the rudder, including analytical investigation, pilot surveys, and piloted simulations of flight conditions requiring rudder input. It also conducted an international survey of transport pilots to learn how pilots understand and use airplane rudder control. The FAA tasked the ARAC to develop performance-based standards and guidance to address this safety issue. The FAA expects to receive the ARAC recommendations for rulemaking by December 2012. At that time, the FAA can better determine if it will fully adopt this recommendation. After receipt of the ARAC recommendations, the FAA intends to begin rulemaking.

Previously Missed Deadline(s): N/A

A-04-57. After the yaw axis certification standard recommended in Safety Recommendation A-04-56 has been established, review the designs of existing airplanes to determine if they meet the standard. For existing airplanes designs that do not meet the standard, the FAA should determine if the airplanes would be adequately protected from the adverse effects of a potential aircraft-pilot coupling (APC) after rudder inputs at all airspeeds. If adequate protection does not exist, the FAA should require modifications, as necessary, to provide the airplanes with increased protection from the adverse effects of a potential APC after rudder inputs at high airspeeds.

Proposed Completion Date: December 31, 2014

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA tasked the ARAC to develop criteria to determine if rudder systems on current airplanes are safe, and expects to receive the ARAC recommendations for criteria by December 2012. The FAA will then review the criteria developed by the ARAC and require design changes for those airplanes found to have systems that are not safe enough.

Previously Missed Deadline(s): N/A

A-05-03. Require Honeywell to modify its flight management system (FMS) software to annunciate warnings to the flight crew when a takeoff reference speed is changed by a value that would impede the airplane's ability to safely take off, and require all operators of airplanes with Honeywell FMS computers to incorporate this software modification.

Completion Date: November 23, 2009

DOT Status: AC*

NTSB Status: OUA (July 21, 2010)

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Implementation Description: In September 2006, the ATA Communication, Navigational, Surveillance (CNS) task force provided a proposal to improve the operation of FMS with software enhancements, which was accepted by aircraft manufacturers, FMS manufacturers, and air carrier operators. In March 2009, the FAA published policy based on the CNS proposal to decrease the likelihood of errors and encourage the use of systems that automatically transfer data to the FMS. For in-service airplanes, AC 120-71A, Standard Operating Procedures for Flight Deck Crewmembers, is in place to reduce the likelihood of airplane weight data entry errors.

The FAA is not adopting the recommendation as written because it determined that annunciating erroneous and unsafe takeoff speeds to the flightcrew is only practical on certain airplanes and only for certain types of errors. Many transport airplanes are equipped with an FMS (Honeywell or other) that do not compute takeoff speeds. Even for those systems which do compute speeds (based on other data entries by pilots), a single technical solution is not considered practical or effective in resolving this issue because of the wide range in equipment and operational conditions and the potential for errors while setting reference speeds.

Previously Missed Deadline(s): N/A

A-05-04. Require Honeywell to modify its flight management system (FMS) software to prevent entry of airplane weights that would result in landing weights below zero fuel weight or operating empty weight, and require all operators of airplanes with Honeywell FMS computers to incorporate this software modification.

Completion Date: November 23, 2009

DOT Status: AC*

NTSB Status: OUA (July 21, 2010)

Implementation Description: In September 2006, the ATA CNS task force provided a proposal to improve the operation of FMS with software enhancements, which was accepted by aircraft manufacturers, FMS manufacturers, and air carrier operators. The CNS task force confirmed that most operators have already implemented the zero fuel weight (ZFW)-only entry as crew procedure thus preventing erroneous gross weight entries. In March 2009, the FAA published policy based on the CNS proposal to decrease the likelihood of errors and encourage the use of systems that automatically transfer data to the FMS. For in-service airplanes, AC 120-71A, Standard Operating Procedures for Flight Deck Crewmembers, is in place to reduce the likelihood of airplane weight data entry errors.

The FAA is not adopting the recommendation as written because it believes that the actions taken to address SR A-05-5 (ZFW-only entry crew procedure), which was classified as “closed acceptable response” by the Board, also address SR A-05-4. Most flight management computer versions incorporate a model specific performance database and range-limited values for respective airplane weights. If an entry is attempted outside of range limited values, the crew is appropriately notified.

Previously Missed Deadline(s): N/A

A-05-31. Require the replacement of aileron surface position sensors installed in accordance with Supplemental Type Certificate (STC) No. ST01310NY with more reliable aileron surface position sensors within 1 year or at the next heavy maintenance check, whichever comes first, after the issuance of an approved STC. Until reliable aileron surface position sensors have been installed, require flight data recorder functional checks every 6 months and replacement of faulty sensors, as necessary.

Completion Date: September 7, 2010

DOT Status: AC*

NTSB Status: CUA (January 11, 2011)

Implementation Description: The FAA has completed the following actions:

- In March 2006, the FAA published Delta Engineering issued Service Alert (SA) 120105-01A, instructions for continued airworthiness (ICA), to change the inspection interval of the aileron sensors from 12 months to 6 months;
- In April 2006, the FAA issued a SAIB, Instruments: Redesigned Aileron Sensors for Flight Data Recorder, recommending Aerospatiale ATR-42 and ATR-72 aircraft owners and operators use the inspection interval established in the revised ICA;
- In October 2007, the FAA amended STC No. ST01310NY, and in September 2008, approved Delta Engineering Service Bulletin (SB) No. 2301-06397-2030, which provides operators with guidelines for replacing the existing sensors with the newly designed sensors;
- In August 2007, the FAA approved Delta Engineering ICA (0701-04812-2030, Revision G) changing the inspection from 12 months to 6 months. The ICA requires faulty sensors identified during the inspections to be removed and replaced with the newly designed sensors (P/Ns 05782-501 and 05782-502); and
- On March 4, 2010, the FAA issued SAIB NM-10-18, Instruments: Redesigned Aileron Sensors for Flight Data Recorder, recommending owners and operators incorporate FAA STC No. ST01310NY to comply with the actions outlined in Delta Engineering SB No. 2301-06397-2030.

The FAA's basis for not adopting the recommendation as written is because there is no regulatory basis for specific reliability for aileron sensors and failure of the sensors would not result in an unsafe condition of the aircraft. Therefore, a mandatory replacement of these sensors is not warranted. The ICA inspections for the old aileron sensors would have detected any infant mortality breakdown, and as of October 2008, only the newly designed sensors were available for replacement parts.

Previously Missed Deadline(s): N/A

A-05-32. Conduct a review of all flight data recorder systems that have been modified by a supplemental type certificate to determine the reliability of all sensors used as flight control surface position sensors. If the review determines that a sensor does not provide reliable flight control surface position data, require that the sensor be replaced with a more reliable sensor.

Completion Date: September 7, 2010

DOT Status: AC*

NTSB Status: CUA (January 11, 2011)

Implementation Description: In a letter dated August 21, 2007, the FAA stated that occasionally FDR sensors do not perform as reliably as expected. Operators, airplane/equipment manufacturers, and overseeing FAA staff should be alert and identify and correct such cases when they occur. The FAA proposed that the next revision to AC 20-141, Airworthiness and Operational Approval of Digital Flight Data Recorder Systems, contain emphasis with additional guidance on FDR sensor reliability monitoring.

The Board agreed, stating that appropriate and timely revisions to AC 20-141 may be an acceptable alternative response to this recommendation provided that the revisions address the Board's concerns. On December 8, 2008, the FAA published AC 20-141A, specifically, paragraph 2-4.m states:

m. Sensor reliability. Be careful when selecting sensor types for particular applications. Specifically, certain sensors are less reliable in different applications than others. For instance, potentiometers have historically been unreliable on flight control surface applications where high vibration may be present. However, a similar sensor may be reliably used for other applications, such as pilot input controls.

Note: Potentiometers should be avoided in all cases for retrofit flight recording system design. Synchros, rotary variable differential transducers, and linear variable differential transducers are far more robust in the airplane environment.

Previously Missed Deadline(s): N/A

A-06-74. For those airplanes with engines that are found to be susceptible to core lock (other than the CF34-1 and CF34-3, which are addressed in Safety Recommendation A-06-71), require airplane manufacturers to incorporate information into airplane flight manuals that clearly states the potential for core lock; the procedures, including the minimum airspeed required, to prevent this condition from occurring after a sudden engine shutdown; and the resulting loss of in-flight restart capability if this condition were to occur.

Proposed Completion Date: December 31, 2013

DOT Status: AIP**NTSB Status:** OAA

Implementation Description: The FAA asked each airplane manufacturer to perform an assessment for the potential for rotor lock on each of their model airplanes and to incorporate changes to their AFMs. This was done to alert pilots to the potential for rotor lock, procedures to prevent rotor lock, and the consequences of rotor lock, if the airplane is found susceptible. The FAA expects to complete the review of the airplane manufacturer's assessments by the end of December 2011.

Based on the FAA's review of the assessments provided by manufacturers, it will initiate incorporation of, or changes to, definitive procedures as necessary for those airplanes. The FAA is not adopting the recommendation as written because it determined that it is impracticable to evaluate all current airplanes to determine if the design is susceptible to rotor lock due to the high costs of testing each airplane and engine type combination.

Previously Missed Deadline(s): N/A

A-06-75. Require manufacturers to determine, as part of 14 Code of Federal Regulations Part 25 certification tests, if restart capability exists from a core rotation speed of 0 indicated rpm after high power, high altitude sudden engine shutdowns. For those airplanes determined to be susceptible to core lock, mitigate the hazard by providing design or operational means to ensure restart capability.

Proposed Completion Date: December 31, 2011**DOT Status:** AIP**NTSB Status:** OAA

Implementation Description: In January 2010, the FAA posted a draft policy for public comment that proposes to establish a method for a screening test to determine if new airplane designs are susceptible to rotor lock. The FAA received significant public comments, and it is in the process of revising the policy to release for additional public comments due to several changes to the policy. The final policy is expected to be completed by the end of December 2011. The FAA is not adopting the recommendation as written because it determined that it is impractical to require the engine to come to a full stop and it is instead requiring that the engine rotor slow down as much as is practical.

Previously Missed Deadline(s): N/A

A-07-55. Require, on all new airplanes certificated under 14 Code of Federal Regulations Part 25 that the air data sensor heating system automatically activates after engine start.

Proposed Completion Date: December 31, 2012**DOT Status:** AIP**NTSB Status:** OAA

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Implementation Description: On February 3, 2011, the FAA published the Installed Systems and Equipment for Use by the Flightcrew NPRM, which proposes to mandate design characteristics that are known to reduce or avoid flightcrew error and address flightcrew capabilities and limitations. The FAA expects to issue the final rule by December 2012. In the interim, the FAA is applying issue papers for new design certification to ensure the level of safety intended by this recommendation and new rule are applied to new air data system designs.

The FAA is not adopting the recommendation as written because while it agrees that a specific part 25 regulation to require automation of air data system heating may enhance safety, there are many other analogous systems and controls for which flightcrew error is also a concern. A broader, performance based, regulatory approach in addressing flightcrew error (such as the omission error suspected in the incident which sparked this recommendation) will lead to a greater improvement in safety than attempting to individually specify the design of each aircraft system within the FAA's regulations.

Previously Missed Deadline(s): N/A

A-07-56. Require modification of existing airplanes certificated under 14 Code of Federal Regulations Part 25 that currently require manual activation of the air data sensor heating system to incorporate, to the extent technically practical, the automatic activation of this system; for airplanes that cannot be modified, require that cockpit warnings provide an upgraded warning associated with the failure to activate the heating system.

Proposed Completion Date: July 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: On July 25, 2007, Final Rule AD; McDonnell Douglas Model 717-200 Airplanes, became effective requiring a wiring change of the air data sensor heating system of McDonnell Douglas Model 717-200 airplanes (the incident aircraft model which led to this recommendation). The FAA reviewed the Boeing Model 737 air data sensor heating system design and service history and determined an unsafe condition also exists on this aircraft. The FAA intends to require automatic function of the air data probe heat system for all 737-200/-300/-400/-500/-600/-700/-800/-900 models.

The FAA is also collecting details regarding air data heating system activation and alerting for other transport aircraft to assess the need for future airworthiness action. This data review and assessment should be completed by July 2012. The FAA is not adopting the recommendation as written because it will only mandate modifications to previously certified aircraft when it determines that an unsafe condition exists.

Previously Missed Deadline(s): N/A

A-07-103. Require all emergency exits on cargo aircraft that are operable from the outside to have a 2-inch contrasting colored band outlining the exit.

Completion Date: September 6, 2010

DOT Status: AC✓

NTSB Status: OAA (May 27, 2010)

Implementation Description: On March 31, 2010, the FAA issued SAIB NM-10-23, Equipment/Furnishings: Exterior Exit Markings, recommending that owners, operators, and OEMs of all-cargo airplanes mark the exterior of all exits usable in an emergency. For future certification approvals of airplanes that can carry persons other than crew, the FAA does not intend to grant relief from part 25 requirements for exterior marking of emergency exits. The FAA is not adopting the recommendation as written because it determined that the issues of concern do not constitute an unsafe condition and as such do not rise to the level requiring mandatory corrective action. Therefore, the FAA decided not to pursue additional rulemaking.

Previously Missed Deadline(s): N/A

A-09-9. Require the installation of a crash-resistant flight recorder system on all newly manufactured turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a flight data recorder and are operating under 14 Code of Federal Regulations Parts 91, 121, or 135. The crash-resistant flight recorder system should record cockpit audio (if a cockpit voice recorder is not installed), a view of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, all to be specified in European Organization for Civil Aviation Equipment document ED-155, "Minimum Operational Performance Specification for Lightweight Flight Recorder Systems," when the document is finalized and issued. (Supersedes Safety Recommendation A-03-62).

A-09-10. Require all existing turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a cockpit voice recorder and are operating under 14 Code of Federal Regulations Parts 91, 121, or 135 to be retrofitted with a crash-resistant flight recorder system. The crash-resistant flight recorder system should record cockpit audio, a view of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, all to be specified in European Organization for Civil Aviation Equipment document ED-155, "Minimum Operational Performance Specification for Lightweight Flight Recorder Systems," when the document is finalized and issued. (Supersedes Safety Recommendation A-03-64).

A-09-11. Require all existing turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a flight data recorder and are operating under 14 Code of Federal Regulations Parts 91, 121, or 135 to be retrofitted with a crash-resistant flight recorder system. The crash-resistant flight recorder system should record cockpit audio (if a cockpit voice recorder is not installed), a view of the cockpit environment to include as much of the outside

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view as possible, and parametric data per aircraft and system installation, all to be specified in European Organization for Civil Aviation Equipment document ED-155, "Minimum Operational Performance Specification for Lightweight Flight Recorder Systems," when the document is finalized and issued. (Supersedes Safety Recommendation A-03-65).

Completion Date: February 15, 2011

DOT Status: AC✓

NTSB Status: OUA (December 23, 2010)

Implementation Description: The FAA published TSO-C197, Information Collection and Monitoring Systems, for a lightweight recording system invoking certain requirements of European Organization for Civil Aviation Electronics (EUROCAE) document ED-155. TSO-C197, dated November 15, 2010, standardizes the design and production certification requirements for equipment manufacturers in an effort to streamline aircraft installation and integration.

The FAA has no plans to mandate the equipage of additional recording systems on all turbine-powered, nonexperimental, nonrestricted-category aircraft. However, the FAA is considering mandating equipage of TSO-C197 approved recording systems on certain aircraft based on specific types of operation, for example, helicopter air ambulance operations.

Additionally, the Air Ambulance and Commercial Helicopter Operations, Part 91 Helicopter Operations, and Part 135 Aircraft Operations; Safety Initiatives and Miscellaneous Amendments NPRM, published on October 12, 2010, supports these recommendations.

Previously Missed Deadline(s): N/A

A-09-41. Require the Boeing Airplane Company to revise its 757/767 procedures and training for addressing an illuminated Standby Power Bus OFF light, to include specific steps to take so that complete loss of battery power is avoided. These steps should include landing at the nearest suitable airport before the power is depleted and actions to take if landing is not possible.

Completion Date: May 13, 2011

DOT Status: AC✓

NTSB Status: OAA (January 11, 2011)

Implementation Description: The FAA evaluated strategies for risk mitigation related to the Boeing 757/767 Standby Bus OFF procedures and additional specific airplane configuration issues that may have contributed to the performance inadequacies during landing. Boeing produced procedural revisions for the 757/767 fleets and developed flightcrew operations manual bulletins and distributed them to operators. Airplane model differences resulted in several variations of the procedures depending on specific customer airplane configurations. The FAA reviewed the revised procedures and confirmed they adequately address the issues arising from the incident.

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The FAA is not adopting the recommendation as written because Boeing has already revised the procedures and issued them to the fleet. The FAA determined an AD was not needed as it would have required changes that had already been made.

Previously Missed Deadline(s): N/A

A-09-43. Require operators to replace electrically conductive combustible oxygen hoses with electrically nonconductive hoses so that the internal hose spring cannot be energized.

Completion Date: September 9, 2010

DOT Status: AC✓

NTSB Status: OAR (July 8, 2009)

Implementation Description: The FAA issued ADs related to replacement and discontinued use of electrically conductive oxygen hoses on Boeing products. The AD numbers and effective dates are as follows:

- 757 series – AD 2010-06-17, effective May 3, 2010;
- 767 series – AD 2010-16-04, effective September 9, 2010;
- 747 series – AD 2010-16-05, effective September 9, 2010; and
- 737 series – AD 2010-16-06, effective September 9, 2010.

The FAA is not adopting the recommendation as written because it does not concur that every potentially electrically conductive oxygen hose is a safety concern that requires replacement. Oxygen hoses that are normally unpressurized do not present a risk of fire. As such, the FAA determined that the issue is installation specific. The FAA is coordinating with other manufacturers to further understand the various installations and evaluate the use of flexible oxygen hoses. If additional safety concerns are identified, the AD process will be used at that time to address them.

Previously Missed Deadline(s): N/A

A-09-52. Require transport-category airplane operators to (1) perform a one-time inspection of all passenger service unit reading lights installed on their airplanes to ensure that they include rubber boots or use other means to isolate the electrical parts of the assembly and (2) include, in maintenance manuals or other maintenance documentation, information about the importance of this electrical protection.

Completion Date: May 13, 2011

DOT Status: AC✓

NTSB Status: OAR (July 8, 2009)

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Implementation Description: The FAA assessed the issue and determined that the accident airplane was modified from a passenger to a freighter airplane in accordance with STC ST01433SE. Aircraft modified per the subject STC were inspected and modified as necessary shortly after the potential cause of accident was suspected.

The FAA is not adopting the recommendation as written because aircraft that were modified with STC ST01433SE have been corrected. The FAA does not have data to support or reason to suspect that reading light designs on other transport category airplanes are susceptible to fire.

Previously Missed Deadline(s): N/A

A-09-53. Require operators of transport-category cargo airplanes to install smoke detectors in the supernumerary or similar compartment of their airplanes.

Proposed Completion Date: December 31, 2013

DOT Status: AIP

NTSB Status: OAR

Implementation Description: The FAA plans to implement policy on smoke detectors for different types of supernumerary and similar compartments (e.g., remote crew rest areas) for new certification projects. The FAA is continuing to evaluate whether it is necessary to retrofit the existing fleet. The FAA is not adopting the recommendation as written because a single criterion for all supernumerary or similar areas is not appropriate. The FAA intends to provide detailed guidance on when smoke detection is required. For example, if the supernumerary area is not physically separated (e.g., by curtain or hard wall) from the flight deck no smoke detector would be required.

Previously Missed Deadline(s): N/A

A-09-69. Assess the history of pilot errors related to takeoff configuration and identify needed mitigating design elements; require inclusion of such design elements when determining current and future aircraft certifications.

Proposed Completion Date: December 31, 2012

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA conducted a comprehensive review of takeoff configuration warning systems for large jet transports in the late 1980's, which led to the more robust designs on current transport aircraft. On February 3, 2011, the FAA published the Installed Systems and Equipment for Use by the Flightcrew NPRM. This NPRM proposes to require design characteristics that are known to reduce or avoid flightcrew error and address flightcrew capabilities and limitations. The FAA expects to issue the final rule in late 2012. The

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FAA is not adopting the recommendation as written because its rulemaking is intended to deal with flight crew errors that are broader in scope rather than focus solely on the Takeoff Warning System (TOWS).

Previously Missed Deadline(s): N/A

A-09-119. Require airplane manufacturers to develop guidance on the identification of circuit breakers that pilots need to identify quickly and pull easily during abnormal or emergency situations and to provide such guidance, once developed, to operators of those airplanes.

Proposed Completion Date: March 31, 2012

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA reviewed its existing certification rules to determine if further, more specific guidance for the marking and accessibility of circuit breakers is needed. The FAA is not adopting the recommendation as written because it concluded that current standards provide an appropriate certification standard regarding the identification and accessibility of flight deck circuit breakers. The FAA acknowledges that some aircraft operators add collars or other markings to aid pilots and maintenance personnel in quickly identifying commonly used circuit breakers. When used appropriately, these means of identification represent a best practice and can improve the flightcrew's ability to locate a specific circuit breaker that may be called out during in-flight non-normal procedures. The FAA is determining the best means to communicate the intent of this recommendation to manufacturers and operators, which are intended to complete those communications by March 2012.

Previously Missed Deadline(s): N/A

A-10-11. Require that airspeed indicator display systems on all aircraft certified under 14 Code of Federal Regulations Part 25 and equipped with electronic flight instrument systems depict a yellow/amber cautionary band above the low-speed cue or airspeed indicator digits that change from white to yellow/amber as the airspeed approaches the low-speed cue, consistent with Advisory Circular 25-11A, "Electronic Flight Displays."

Next Major Milestone Date: December 31, 2014

DOT Status: AIP

NTSB Status: OUA (January 25, 2011)

Implementation Description: The FAA tasked the ARAC with examining the subject of low speed alerting and for gathering information that could be used by the FAA to formulate new regulations. The final phase 1 report (new part 25 standards) was received on March 15, 2011. The FAA expects to release a low speed alerting (or low speed protection) NPRM for new certification by August 2012, and subsequent final rule by June 2014. Phase 2 of the ARAC

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working group was initiated on March 15, 2011, which will address potential retrofit regulations for part 121 operators. A phase 2 report is expected in June 2012. On receiving the ARAC recommendations, the FAA will determine whether to fully adopt this recommendation.

Previously Missed Deadline(s): N/A

A-10-12. For all airplanes engaged in commercial operations under 14 Code of Federal Regulations Parts 121, 135, and 91K, require the installation of low-airspeed alert systems that provide pilots with redundant aural and visual warnings of an impending hazardous low-speed condition. (A-10-12) (Supersedes Safety Recommendations A-03-53 and -54 and is classified "Open-Unacceptable Response")

Next Major Milestone Date: December 31, 2014

DOT Status: AIP

NTSB Status: OUA (January 25, 2011)

Implementation Description: The FAA tasked the ARAC with examining the subject of low speed alerting and for gathering information that could be used by the FAA to formulate new regulations. The final phase 1 report (new part 25 standards) was received on March 15, 2011. The FAA expects to release a low speed alerting (or low speed protection) NPRM for new certification by August 2012, and subsequent final rule by June 2014. Phase 2 of the ARAC working group was initiated on March 15, 2011, which will address potential retrofit regulations for part 121 operators. A phase 2 report is expected in June 2012. On receiving the ARAC recommendations, the FAA will determine whether to fully adopt this recommendation. The FAA plans to address parts 135 and 91K in subsequent phases of the ARAC tasking.

Previously Missed Deadline(s): N/A

A-10-77. Require Airbus to redesign the frame 65 vertical beam on A318, A319, A320, and A321 series airplanes to lessen the likelihood that it will intrude into the cabin during a ditching or gear-up landing and Airbus operators to incorporate these changes on their airplanes.

Next Major Milestone Date: December 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA coordinated with EASA to require Airbus to redesign the Frame 65 vertical beam on future production of A318, A319, A320, and A321 series airplanes to reduce the likelihood that it will intrude into the cabin during a ditching event with a high vertical descent rate. There is no indication that the current configuration of the Frame 65 vertical beam will intrude into the cabin during a gear-up landing condition. EASA does not plan to require Airbus operators under EASA jurisdiction to incorporate these changes on previously delivered airplanes. The FAA will determine whether to require Airbus operators to

incorporate these changes on their airplanes after review of the redesign and associated costs. The FAA estimates completion of this work by December 2012.

Previously Missed Deadline(s): N/A

A-10-84. Require modifications to life vest stowage compartments or stowage compartment locations to improve the ability of passengers to retrieve life vests for all occupants.

Proposed Completion Date: April 30, 2012

DOT Status: AIP

NTSB Status: OUA (March 17, 2011)

Implementation Description: The FAA initiated a revision to FAA policy to provide special emphasis to follow the industry derived twelve detailed criteria in the Aerospace Recommended Practice 5526B. The FAA expects to complete its actions by April 2012. The FAA is not adopting the recommendation as written because it determined the existing regulations, policy, industry standards, and practice documents provide an acceptable level of safety. The FAA does not intend to require modifications to the life vest stowage compartment.

Previously Missed Deadline(s): N/A

A-10-85. Revise the life vest performance standards contained in Technical Standard Order-C13f to ensure that they result in a life vest that passengers can quickly and correctly don.

Proposed Completion Date: September 30, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: From the information available in the post accident interviews, it is still difficult to ascertain why all passengers with a life preserver did not fully don their floatation device. The FAA met with the SAE S9 Cabin Safety Provisions Committee in late May 2011. The committee discussed potential reasons why passengers were not able to fully don their life preservers. The committee also discussed possible performance and design standards that may increase the donning characteristics of life preservers. Emphasis was placed on determining possible standards that are achievable and do not decrease the overall level of safety of the life preserver. If potential standards are identified and adopted by the SAE S9 committee into AS 1354, the FAA will incorporate those standards into a revision to TSO-C13f.

Previously Missed Deadline(s): N/A

A-10-98. Immediately require operators of CF6-45/50-powered airplanes to perform high pressure turbine rotor blade borescope inspections every 15 flight cycles until the low pressure turbine stage 3 disk is replaced with a redesigned disk that can withstand the unbalance vibration forces from the high pressure rotor.

Completion Date: July 19, 2010

DOT Status: AC*

NTSB Status: OUA (January 13, 2011)

Implementation Description: The FAA published a number of ADs that require operators to inspect the affected engine components. The FAA mandated inspection intervals different from those recommended by the Board and required the operators to perform additional inspections above and beyond those recommended by the Board.

Previously Missed Deadline(s): N/A

A-10-117. Require operators to perform periodic inspections on the Burns Aerospace model 2501-5 jumpseats for fatigue cracks within the jumpseat structure and replace the jumpseat if fatigue cracks are found.

Next Major Milestone Date: July 31, 2012

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA reviewed the Component Maintenance Manual (CMM) for the subject flight attendant seat. The CMM specifies that a check of the flight attendance seats be accomplished monthly. This check is a visual inspection of the seat structure using a 10x power magnification lens. The FAA will continue to work with B/E Aerospace to assess the safety of these seats and determine whether a mandated inspection of these seats is required.

Previously Missed Deadline(s): N/A

A-04-47. Based on the results of the research requested in Safety Recommendation A-04-46, develop a standard battery of tests to be performed at least once on each applicant for a Class 1 or 2 medical certificate that would prevent applicants with color vision deficiencies that could impair their ability to perform color-related critical aviation tasks from being certificated without limitations.

Proposed Completion Date: March 31, 2013

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA conducted a series of studies in response to SR A-04-47. The FAA documented the pilot environment, including airport and approach lighting and signaling systems and cockpit use of color. It also determined that something other than SLGs is necessary for operational/performance testing. The FAA is continuing to conduct research to determine whether a test battery can be developed and practically implemented. The Federal Air Surgeon convened a workgroup to review potential revisions to performance-based operational testing to ensure cleared pilots can discriminate airport surface lighting, glide path signaling systems, and cockpit displays. Alternatively, the FAA is exploring whether high-precision clinical color vision tests would fulfill the operational requirement.

The FAA's research towards an operational/performance test is using incandescent and LED airport lighting, SLGs, and cockpit colors used to communicate critical information. The FAA is currently examining the data it has collected to identify a cut-score for precision clinical instruments that reliably discriminates CVD subjects who can and cannot discriminate all of the operational colors and lights. In addition, the Federal Air Surgeon has tasked a WG to determine:

- Whether a test battery can be developed to screen ability to discriminate airport and approach lighting and signaling systems using incandescent and LED lights, to be followed by certification limited by aircraft, such that an inspector or designee would be required to certify that he or she could discriminate all cockpit colors by function, for each aircraft type in which the pilot wished to pursue certification;
- What criteria would be necessary for an ASI to determine whether a pilot could adequately discriminate colors deployed in an aircraft for which a color vision deficient pilot wishes to qualify; and
- Whether a standard test of cockpit colors based upon the color palette required by § 25.1322(a)(2) and/or recommended by AC-25-11A, Electronic Flight Deck Displays, could in the future replace aircraft-specific certification.

Research will be conducted as necessary to support these tasks.

Previously Missed Deadline(s): N/A

A-00-66. Require, at all airports with scheduled passenger service, a ground movement safety system that will prevent runway incursions; the system should provide a direct warning capability to flight crews. In addition, demonstrate through computer simulations or other means that the system will, in fact, prevent incursions.

Proposed Completion Date: December 31, 2015

DOT Status: AIP

NTSB Status: OUA (October 7, 2009)

Implementation Description: Full implementation of Airport Surface Detection Equipment-X at 35 airports is complete. Installation and implementation of Runway Status Lights at 23 airports is on schedule for completion by December 2015. The FAA completed engineering and technical evaluations of two Low Cost Ground Surveillance (LCGS) products and has initiated a pilot project to deploy LCGS products at several airports. The FAA intends to use the results of these pilot projects to develop requirements and an acquisition strategy for deployment of LCGS systems at additional airports.

Previously Missed Deadline(s): N/A

A-01-56. Incorporate, at all air traffic control facilities, a near-real-time color weather radar display that shows detailed precipitation intensities. This display could be incorporated by configuring existing and planned Terminal Doppler Weather Radar or Weather Systems Processor systems with this capability or by procuring, within 1 year, a commercial computer weather program currently available through the Internet or existing stand-alone computer hardware that displays the closest single-site Weather Surveillance Radar 1988 Doppler data or regional mosaic images.

Proposed Completion Date: September 30, 2015

DOT Status: AIP

NTSB Status: OUA (December 15, 2004)

Implementation Description:

The FAA remains committed to providing appropriate aviation weather information to all ATC facilities. The current service levels of the 578 ATC facilities with a near-real-time color weather radar display that shows detailed precipitation intensities are as follows (ATC facilities are grouped by their most advanced service):

Advanced Service – 134 Facilities:

The FAA's advanced services include the Integrated Terminal Weather System (ITWS) and the Weather and Radar Processor system (WARP). ITWS not only shows real-time high resolution precipitation levels, but also provides windshear, microburst and forecast growth, and movement of convective activity. The FAA deployed ITWS to:

- 34 Terminal Radar Approach Control facilities;
- 62 Air Traffic Control Tower (ATCT) facilities;
- 20 Air Route Traffic Control Center (ARTCC) facilities; and

- The Air Traffic Control System Command Center (ATCSCC) – for a total of 117 ATC facilities.

In addition, the WARP system provides near-real-time color weather radar displays, showing detailed precipitation intensities using Next Generation Radar (NEXRAD), to:

- All 21 ARTCC facilities;
- The three Center Radar Approach Control facilities; and
- The ATCSCC – for an addition of four new ATC facilities.

Basic Service – 377 Facilities:

Every ATC facility with basic service provides the controller with a limited level of precipitation information. Out of the 377 ATC facilities that have basic service, 122 of these facilities are covered by an Airport Surveillance Radar (ASR) -9 or -11 system, projected on displays like the Standard Terminal Automation Replacement System. When these systems provide the radar information, a dedicated weather capability provides the appropriate precipitation levels to the controller by displaying weather information in relation to the aircraft position. The remaining ATC facilities are covered by systems that show less advanced levels of precipitation detail, such as the Air Route Surveillance Radar, ASR-7, ASR-8, or other similar systems. The FAA is working to provide these remaining facilities with more advanced capabilities.

No Service – 67 Facilities:

The lack of basic radar weather displays at 67 facilities is due to the low number of aircraft operations and/or the lack of near-by radar coverage for an airport, both of which are criteria for deploying these displays. However, these facilities are still able to receive text-based weather forecasts and information from other FAA and weather facilities.

The FAA decided not to pursue the use of commercial computer weather programs currently available through the Internet due to the following issues and safety concerns:

- The information that the controller would have to interpret is not standardized in format, latency, and geographical relationship to the controller's airspace;
- The interpretation of conflicting weather radar information by a commercial Internet service may not be aligned with the FAA safety mission;
- Providing consistent training and procedures on how this information is to be used cannot be done in a cost efficient manner; and
- Some of the more remote facilities only have dial-up internet; the bandwidth would not support basic weather radar displays.

Service Modernization:

Facilities will increase service levels as superior aviation weather systems are introduced. For example, ITWS is now fully deployed and commissioned as of September 1, 2011, servicing 75 ATCT facilities. The FAA is also currently implementing a program that will employ the new National Airspace System Information Display System (NIDS), capable of receiving and displaying weather from available weather radar products, including NEXRAD, for each location. NIDS deployment is planned to begin near October 2011 and will continue until December 2015. This program will provide weather access to all but 75 ATCT facilities. The FAA is exploring how these remaining facilities can be included in the deployment.

The FAA will start the investment analysis for the deployment of the Next Generation Air Transportation System (NextGen) Weather Processor and NextGen Network-Enabled Weather this month. The combination of these capabilities will increase the accessibility to the near-real-time color weather radar information that shows detailed precipitation intensities to ATC facilities that will have NIDS. Initial operating capability is expected to occur at a first site in September 2015.

Previously Missed Deadline(s): N/A

A-09-112. Modify Federal Aviation Administration radar data processing systems so that air traffic controllers can instruct the systems to process the discrete transponder code of an aircraft experiencing an emergency as if it were an emergency transponder code.

Proposed Completion Date: A completion date will be determined pending the outcome of the System Engineering Analysis Report (SEAR).

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The Standard Terminal Automation Replacement System currently has the capability to display emergency symbology of an aircraft in distress (i.e., emergency, lost communication, or hijack) that will notify every controller within the facility of the situation. The Common Automated Radar Terminal System (CARTS) software has new functionality that allows the air traffic controller to make a keyboard entry and move their cursor to an aircraft in distress. This provides a visual indication and is added to the aircraft data block that is displayed at every radar position, including ATCT displays. This new CARTS functionality was incorporated in the CARTS R36 software and deployed to the four CARTS' terminal automation and replacement sites in August 2011.

A SEAR has been submitted that initiates the process of assessing impact, cost, and benefit of the proposed change to the En Route Automation Modernization system, Ocean21, and Microprocessor Enroute Automated Radar Tracking System for the En Route and Oceanic domain radar data processing systems. The FAA will make a determination of the feasibility of implementing this recommendation pending the outcome of the SEAR.

Previously Missed Deadline(s): N/A

A-10-42. Establish and implement standard procedures to document and share control information, such as frequency changes, contact with pilots, and the confirmation of the receipt of weather information, at air traffic control facilities that do not currently have such a procedure. These procedures should provide visual communication of at least the control information that would be communicated by the marking and posting of paper flight-progress strips described in Federal Aviation Administration Order 7110.65, "Air Traffic Control."

Completion Date: April 4, 2011

DOT Status: AC✓**NTSB Status:** OAA (February 14, 2011)

Implementation Description: The FAA thoroughly assessed this recommendation and determined that its actions effectively meet the intent of the recommendation. With regard to a specific visual indicator on the radar display for communication status, changes will be made to HOST and En Route Automation Modernization software. The software is expected to be delivered in FY 2011 and will implement the following changes:

- 1) Display a visual indication to a controller that a specific flight needs to be changed to a different very high frequency. This indicator will be displayed automatically to the transferring controller after a handoff is complete.
- 2) Display a visual indication to a controller that voice communications need to be verified with a specific flight. This indication will be displayed automatically to a controller that acquires track control, either through initiation or acceptance of a handoff.

Prior to receipt of this recommendation, the FAA developed and conducted training, in coordination with NATCA, on all radio communications. This training included a requirement for controllers to use one of eight approved techniques to support continuous communications awareness. The training also requires that controllers ensure appropriate action is taken so that communication status information is included in transfer of position responsibility briefings. In addition, the training refreshes control room personnel on requirements for notification to the Domestic Events Network. Quality control/assurance checks to ensure awareness and compliance are in place and incorporated into JOs 7110.65, Air Traffic Control; 7210.3, Facility Operation and Administration; and 7610.4, Special Operations.

With respect to receipt of weather information, it would be impractical to support the need for strip marking or visual indicators. Current guidance to controllers regarding approach information requirements varies depending on the availability of automated weather reporting. In some situations, approach information may be omitted entirely, and in other situations, weather information may be omitted. Additionally, the availability of automated weather reporting may vary according to the time of day or during a planned or unplanned outage. Therefore, an indicator or strip marking would have various meanings and the absence of any strip marking or indicator could be appropriate for certain situations. Procedural guidance regarding the appropriate use of an indicator strip marking would be complex and would likely require the development of local guidance for each airport served by controllers.

Previously Missed Deadline(s): N/A

A-10-43. Require air traffic controllers to use standard phraseology, such as "on guard," to verbally identify transmissions over emergency frequencies as emergencies.

Proposed Completion Date: An accurate completion date will be formed pending the conclusions of the ATO WG.

DOT Status: AIP**NTSB Status:** OAA

Implementation Description: The FAA's initial response was that the specific use of the phrase "ON GUARD" could easily be confused with "LIFEGUARD" or mistaken as an identifier for Coast Guard or Air/Army National Guard aircraft. The FAA did not believe the recommendation would be effective for its intended purpose. The FAA established an ATO WG of SMEs to consider the response from the Board as well as internal deliberations. A WG meeting was held on May 13, 2011, and an agreement was reached by all parties to include "ON GUARD" in JO 7110.65, Air Traffic Control. Currently the FAA is drafting the document change proposal.

Previously Missed Deadline(s): The FAA missed the October 31, 2010 deadline to allow for further collaboration of the WG to review the inherent safety issues.

A-01-66. Evaluate crash detection and location technologies, select the most promising candidate(s) for ensuring that emergency responders could expeditiously arrive at an accident scene, and implement a requirement to install and use the equipment.

Completion Date: June 1, 2011

DOT Status: AC*

NTSB Status: OUA (October 17, 2002)

Implementation Description: The FAA required all new aircraft rescue and firefighting (ARFF) vehicles at certificated airports to include forward looking infrared systems. These systems allow ARFF vehicles to drive and find accidents in low visibility conditions.

Previously Missed Deadline(s): N/A

A-01-67. Develop specific criteria, using the Federal Railroad Administration's requirements as guidance, to be evaluated during a postaccident interagency emergency response critique, and amend 14 Code of Federal Regulations Part 139 to require airport operators to conduct this critique within 60 days after any air carrier accident and provide the results of the critique to the Federal Aviation Administration.

Completion Date: June 19, 2009

DOT Status: AC✓

NTSB Status: OAA (November 22, 2002)

Implementation Description: The FAA has no plans to amend the regulation. However, the FAA issued guidance to the airports on how to conduct a post-accident review. The FAA published CERTALERT No. 02-03, Air Carrier Accident Critique, on April 25, 2002, and AC 150/5200-31C, Airport Emergency Plan, on June 19, 2009, both addressing post-accident critiques. The FAA believes this guidance fulfills the intent of the recommendation.

Previously Missed Deadline(s): N/A

A-03-5. Require the use of physical devices or other means to clearly indicate to flight crews of arriving and departing aircraft that a runway is closed.

Completion Date: September 30, 2011

DOT Status: AC

NTSB Status: OUA (January 16, 2004)

Implementation Description: Revised AC 150/5370-2F, Operational Safety on Airports During Construction, will capture additional airport construction safety guidelines. The AC is currently undergoing a revision to incorporate new language that strengthens the requirement for physical barriers on all taxiways leading to closed runways. The revised paragraph will read as follows:

21.b. (4). Air Operations Area – Runway/Taxiway Intersections. Use highly reflective barricades with lights to close taxiways leading to closed runways. Evaluate all operating factors when determining how to mark temporary closures that can last from 10 to 15 minutes to a much longer period of time. However, even for closures of relatively short duration, close all taxiway/runway intersections with barricades.

The revised AC was published September 30, 2011.

Previously Missed Deadline(s): N/A

A-07-62. Develop and issue formal guidance regarding standards and guidelines for the development, delivery, and interpretation of runway surface condition reports.

A-08-43. Require all 14 Code of Federal Regulations Part 139 certificated airport operators to include in their airport's snow and ice control plan absolute criteria for type and depth of contamination and runway friction assessments that, when met, would trigger immediate closure of the affected runway to air carrier operations. Friction assessments should be based on pilot braking action reports, values obtained from ground friction measuring equipment, or estimates provided by airport ground personnel.

Proposed Completion Date: This date is dependent on whether rulemaking is adopted by the FAA. Studies are ongoing to see if and how the FAA should create a regulation.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA formed a committee to review regulations affecting certification and operation of airplanes and airports for airplane takeoffs and landings. The committee gave recommendations to the FAA in April and July of 2009. The two core recommendations were (1) create a matrix that correlates runway contaminants to a numerical code that relates to airplane flight manual performance data; and (2) to test this matrix before implementation. Testing took place in the winters of 2009 and 2010. The FAA modified the matrix in September 2010 based on results from 2009. The committee recommended additional testing through the winter of 2011. Results of this round of testing will determine the next steps.

Previously Missed Deadline(s): N/A

A-09-75. Require all 14 Code of Federal Regulations (CFR) Part 139 airports and 14 CFR Part 121, Part 135, and Part 91 Subpart K aircraft operators to report all wildlife strikes, including, if possible, species identification, to the Federal Aviation Administration National Wildlife Strike Database.

Proposed Completion Date: Updated annually

DOT Status: AIP

NTSB Status: OAAA

Implementation Description: The FAA agrees with the benefit of increased reporting and initiated a review of its National Wildlife Strike Database (NWSD). The FAA improved the usability of the bird strike website and made it publically available. The FAA also simplified strike reporting in July 2010 by enabling reporting via the Internet or their mobile devices like the Blackberry and iPhone.

The current overall reporting rate of 39 percent is adequate to determine national trends in wildlife strikes, determine the hazard level of wildlife species that are being struck, and provide a scientific foundation for FAA policies and guidance on the mitigation of risk from wildlife strikes. As these are the main purposes of the NWSD, the FAA does not believe mandatory reporting is required at this time.

Previously Missed Deadline(s): N/A

Office of Security and Hazardous Materials Safety

A-08-1. In collaboration with air carriers, manufacturers of lithium batteries and electronic devices, air travel associations, and other appropriate government and private organizations, establish a process to ensure wider, highly visible, and continuous dissemination of guidance and information to the air-traveling public, including flight crews, about the safe carriage of secondary (rechargeable) lithium batteries or electronic devices containing these batteries on board passenger aircraft.

A-08-2. In collaboration with air carriers, manufacturers of lithium batteries and electronic devices, air travel associations, and other appropriate government and private organizations, establish a process to periodically measure the effectiveness of your efforts to educate the air-traveling public, including flight crews, about the safe carriage of secondary (rechargeable) lithium batteries or electronic devices containing these batteries on board passenger aircraft.

Proposed Completion Date: The FAA cannot yet commit to a completion date for these recommendations.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA is in the process of considering how to address these recommendations, including if further action may be necessary to address these recommendations and whether or not full adoption is appropriate.

Previously Missed Deadline(s): N/A

Not Adopted

Aviation Safety: Flight Standards Service

Aviation Safety: Aircraft Certification Service

Aviation Safety: Office of Aerospace Medicine

Air Traffic Organization

Airports

A-03-43. Require all operators of airplanes that have experienced accelerations exceeding the threshold values established as a result of Safety Recommendation A-03-42 (or that the operator has reason to believe might have exceeded those thresholds), as determined from FDR and other available data, to notify the FAA immediately of such high loading events and provide all related loads assessment and inspection results.

Completion Date: May 30, 2011

DOT Status: AC✓

NTSB Status: OUA (May 2, 2008)

Implementation Description: To address concerns raised by the Board that resulted in this and four other recommendations, a joint FAA and industry committee was formed under the auspices of the Aerospace Industries Association (AIA) and ATA. The committee included representatives from air-frame manufacturers, operators, and FAA's AIR and AFS offices.

The committee evaluated existing special inspection procedures for high load events, and determined that for the most part, the procedures currently in place meet the desired criteria. As a result of their research, AIA published a BPG detailing "Inspection Processes following High Load Events."

The BPG takes into consideration the available technologies to access data by aircraft model. Current reporting requirements, when considered with the BPG, are sufficient to define necessary thresholds beyond which manufacturer and the FAA's involvement is necessary. The FAA believes that operator identification of high load events, followed by use of effective inspection processes, provides the most important safety benefit. If this is accomplished, additional new reporting requirements are not needed. By implementing the BPG and following through on the FAA's action plan, operators and the FAA will have the necessary information to determine when to involve the manufacturer in evaluations and inspections following a high load event.

Note: The Board asked the FAA to reconsider its belief that current reporting requirements are adequate for keeping the FAA aware of the frequency and severity of high load events that may damage an airplane's structure. However, the FAA continues to believe the current reporting requirements, when considered with the BPG, are sufficient to define necessary thresholds for which manufacturer and authorities involvement is necessary.

Previously Missed Deadline(s): N/A

A-10-47. Require that all 14 Code of Federal Regulations Part 121, 135, and 91 subpart K operators perform tire pressure checks at a frequency that will ensure that the tires remain inflated to within aircraft maintenance manual-specified inflation pressures.

Completion Date: May 23, 2011

DOT Status: AC✓**NTSB Status:** OUA (January 13, 2011)

Implementation Description: Title 14 CFR Parts 121, 135, and 91K currently require that operators establish an inspection/maintenance program to ensure that there are necessary checks and instructions for their particular make and model aircraft. In particular, §§ 121.367 and 135.425 each require that the certificate holder's program covers maintenance, preventative maintenance, and alterations that ensure each aircraft released to service is airworthy and has been properly maintained. Part 91K, specifically § 91.1109, requires the establishment of an aircraft inspection program for each make and model. This program must include instructions and procedures for conducting inspections, which would include tire pressure checks at recommended intervals as typically defined in an aircraft maintenance manual (AMM).

The Board determined the probable cause of the Learjet 60 accident to be the operator's inadequate maintenance of the airplane tires, which resulted in multiple tire failures during the takeoff roll. The AMM provides recommended intervals for checking tire pressures and proper inflation values, as well as other guidance for replacing under-inflated tires, which the operator did not properly follow. Therefore, existing regulations meet the intent of SR A-10-47.

Previously Missed Deadline(s): N/A

A-10-82. Require that aircraft operated by 14 Code of Federal Regulations Part 121, Part 135, and Part 91 Subpart K operators be equipped with flotation seat cushions and life vests for each occupant on all flights, regardless of the route.

Completion Date: June 11, 2007**DOT Status:** AC✓**NTSB Status:** OAA (March 17, 2011)

Implementation Description: The FAA indicated it would determine the feasibility of making such a requirement by considering all available information including:

- AC 120-47, Survival Equipment for Use in Overwater Operations, issued on June 12, 1987;
- CAMI research related to flotation seat cushions and life vests;
- TSO requirements for seats and berths, flotation seat cushions, and life vests; and
- The extensive scope of aircraft, which includes helicopters and reciprocating and turbine powered part 23 and part 25 airplanes.

Survival equipment is placed on the aircraft based on a safety risk assessment of the route. Based on the FAA's review, it does not agree that part 121, 135, and 91K operators should be required to provide flotation seat cushions for each occupant regardless of route. The FAA believes the existing regulations and the guidance available (InFO 07013, Flotation Equipment for In-Lap Children (Revised), issued on June 11, 2007) to further explain how to comply with § 121.340 are sufficient. The FAA plans no additional action.

Previously Missed Deadline(s): N/A

A-10-83. Require 14 Code of Federal Regulations Part 121, Part 135, and Part 91 Subpart K operators to brief passengers on all flotation equipment installed on an airplane, including a full demonstration of correct life vest retrieval and donning procedures, before all flights, regardless of route.

Completion Date: May 13, 2011

DOT Status: AC✓

NTSB Status: OAA (March 17, 2011)

Implementation Description: The FAA indicated it would review existing regulatory requirements and guidance surrounding passenger briefings, including the specific information provided to passengers on flotation equipment. The FAA conducted a safety risk assessment and determined the current regulatory requirements (§§ 1.1, 91.509, 121.340, and 121.573) and guidance (AC 120-47 and FSAT 97-08) are sufficient, and it plans no additional action.

Previously Missed Deadline(s): N/A

A-00-30. Require that all aircraft operated under 14 CFR Part 121, 125, or 135 and currently required to be equipped with a cockpit voice recorder (CVR) and digital flight data recorder (DFDR) be retrofitted by January 1, 2005, with a crash-protected cockpit image recording system. The cockpit image recorder system should have a 2-hour recording duration, as a minimum, and be capable of recording, in color, a view of the entire cockpit including each control position and each action (such as display selections or system activations) taken by people in the cockpit. The recording of these video images should be at a frame rate and resolution sufficient for capturing such actions. The cockpit image recorder should be mounted in the aft portion of the aircraft for maximum survivability and should be equipped with an independent auxiliary power supply that automatically engages and provides 10 minutes of operation whenever aircraft power to the cockpit image recorder and associated cockpit camera system ceases, either by normal shutdown or by a loss of power to the bus. The circuit breaker for the cockpit image recorder system, as well as the circuit breakers for the CVR and the DFDR, should not be accessible to the flight crew during flight.

A-00-31. Require that all aircraft manufactured after January 1, 2003, operated under 14 CFR Part 121, 125, or 135 and required to be equipped with a cockpit voice recorder (CVR) and digital flight data recorder (DFDR) also be equipped with two crash-protected cockpit image recording systems. The cockpit image recorder systems should have a 2-hour recording duration, as a minimum, and be capable of recording, in color, a view of the entire cockpit including each control position and each action (such as display selections or system activations) taken by people in the cockpit. The recording of these video images should be at a frame rate and resolution sufficient for capturing such actions. One recorder should be located as close to the cockpit as practicable and the other as far aft as practicable. These recorders should be equipped with independent auxiliary power supplies that automatically engage and provide 10 minutes of operation whenever aircraft power to the cockpit image recorders and associated cockpit camera systems ceases, either by normal shutdown or by a loss of power to the bus. The circuit breaker for the cockpit image recorder systems, as well as the circuit breakers for the CVRs and the DFDRs, should not be accessible to the flight crew during flight.

Completion Date: September 9, 2009

DOT Status: AC*

NTSB Status: OUA (March 18, 2010)

Implementation Description: The FAA plans no further action at this time to mandate the installation of cockpit image recorder systems on newly manufactured aircraft required to carry a CVR and an FDR. If additional flight data information is required to investigate an accident or incident, the FAA would likely propose a performance-based requirement that stipulates that this flight data must be captured. Should an applicant wish to install a camera or video recording system voluntarily, the FAA will work with the applicant to approve such an installation. Further, the circuit protection for any electrical system that is active during flight should be accessible to the flight crew. In the event of an in-flight electrical fire, the crew must be able to turn power off on all electrical equipment quickly in accordance with approved procedures.

Previously Missed Deadline(s): N/A

A-04-35. Actively pursue research with airplane and engine manufacturers and other industry personnel to develop an ice detector that would alert pilots of inlet pressure probe icing and require that it be installed on new production turbojet airplanes, as well as retrofitted to existing turbojet airplanes.

Completion Date: November 23, 2009

DOT Status: AC*

NTSB Status: OUA (July 20, 2010)

Implementation Description: On June 29, 2010, the FAA published the Airplane and Engine Certification Requirements in Supercooled Large Drop, Mixed Phase, and Ice Crystal Icing Conditions NPRM for transport category airplanes. The revised certification standards of this NPRM and subsequent final rule will ensure installed turbojet engines are capable of operation in this type of icing environment without hazardous effects. The final rule is anticipated to be completed by Spring 2012.

The FAA is not adopting the recommendation as written because it determined that there is no immediate safety concern with the in-service fleet. The FAA also determined that it is not practicable to install an ice detector capable of informing pilots of the presence of ice crystal icing because of technological challenges. Rather than pursue ice crystal detectors, the FAA is driving toward robust engine design standards as an alternative so that future engines will not adversely react to the ice crystal environment.

Previously Missed Deadline(s): N/A

A-06-33. Require Bombardier to demonstrate the capability of electrical components to safely tolerate exposure to moisture or conductive fluids under full electrical load when such components may be inadvertently exposed to such conditions.

Completion Date: July 20, 2009

DOT Status: AC*

NTSB Status: OUA (March 26, 2010)

Implementation Description: The FAA reviewed Bombardier's service history and determined there have been no additional incidents reported. The FAA is not adopting the recommendation as written because the certification standards were met for the Bombardier CL-600-2B19 at time of certification. The Tyco-Hartman 1K4XD contactors fitted with Ultem 2200 terminal bases were a post-certification modification that has since been removed from the fleet.

Previously Missed Deadline(s): N/A

A-06-34. Require all airplane manufactures to determine whether any electrical components on their aircraft are manufactured with Ultem 2200 (polyetherimide) or similar material with

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arc-tracking characteristics and require removal or protection of these components to prevent potential fires.

Completion Date: May 13, 2011

DOT Status: AC✓

NTSB Status: OAA (November 2, 2006)

Implementation Description: The FAA conducted a review of smoke and fire events to determine if any were related to the use of Ultem 2200 or similar polyimide material. The review queried multiple safety databases, covered all transport category airplane models, and included all reported incidents and accidents from the year 2000 through mid-2010. The FAA was unable to identify any smoke or fire events where Ultem 2200 or similar material either caused or contributed to the event other than the Bombardier models identified in SRs A-06-29 through -35.

The FAA is not adopting the recommendation as written because as a result of its investigation, the FAA concluded there is no significant risk associated with the use of Ultem 2200 or similar material in the transport airplane fleet.

Previously Missed Deadline(s): N/A

A-07-99. Require that fire suppression systems be installed in the cargo compartments of all cargo airplanes operating under 14 Code of Federal Regulations Part 121.

Completion Date: September 6, 2010

DOT Status: AC*

NTSB Status: CUA (April 27, 2011)

Implementation Description: The FAA arranged for a cost-benefit analysis relating to the installation of on-board fire detection and extinguishment systems in all-cargo airplanes. The results show Halon compartment flooding fire suppression systems or alternative compartment flooding systems are likely to be developed for below-floor cargo compartments, but are not cost beneficial for the main deck cargo compartments of cargo aircraft of any weight category. The FAA is not adopting the recommendation as written because the installation of the recommended systems are not cost beneficial for main deck cargo compartments. Therefore, the FAA does not intend to initiate rulemaking to require fire suppression systems in all cargo airplanes.

Previously Missed Deadline(s): N/A

A-07-102. Require cargo operators to designate at least one floor level door as a required emergency exit and equip the door with an evacuation slide, when appropriate.

Completion Date: September 6, 2010

DOT Status: AC***NTSB Status:** CUA (April 27, 2011)

Implementation Description: The FAA evaluated current guidance and extensive service history to determine whether implementing the recommendation was feasible. The FAA is not adopting the recommendation as written because the current requirement to have a rope or other device for use by the crew for emergency egress is sufficient as supported by extensive service history data. Sufficient data do not exist to justify requiring additional emergency exits equipped with evacuation slides for crew egress on all-cargo airplanes. Therefore, the FAA has decided not to pursue additional rulemaking. When persons other than crew are carried on all-cargo airplanes, as allowed by § 121.583, the requirements of part 25 for emergency exits apply unless relief is granted by exemption, in accordance with § 11.61.

Previously Missed Deadline(s): N/A

A-08-22. Require operators of Boeing 757 airplanes to conduct a one-time visual inspection of the upper wing fixed trailing edge panel support beam clips for cracks, proper orientation, and spacers, and to replace cracked clips and reinstall any clips that are improperly oriented or that lack spacers, in accordance with Boeing Service Bulletin 757-57-0027, Revision 2, dated November 14, 1991.

Completion Date: July 20, 2010**DOT Status:** AC***NTSB Status:** CUA (February 1, 2011)

Implementation Description: The FAA conducted a review of all available physical evidence from Boeing and in-flight data from the two incidents. Aircraft stability and control, fuel efficiency, and the effect of parts departing the aircraft were all evaluated in the analysis. On August 5, 2009, Boeing published SB 757-57-0027-03 to clarify proper clip installation and to notify owners and operators of the two panel departure events.

The FAA is not adopting the recommendation as written because on the incident aircraft, the panel hit the outer pane of a window, but the inner fail-safe pane precluded depressurization. The flight controls are either sufficiently aft of this panel or forward of the stabilizers and cannot be damaged by such a panel departure. Based on the results of the FAA's analysis and these factors, departure of the fixed trailing edge panel does not result in an unsafe condition and the issue does not meet the criteria for mandatory action.

Previously Missed Deadline(s): N/A

A-08-23. Require operators to report any cracked clips found during the one-time inspection, as requested in Safety Recommendation A-08-22, as well as the part number and orientation of the clips relative to the wing rear spar vertical stiffeners and whether spacers were present; then analyze this information to determine if repetitive inspections are required.

Completion Date: July 20, 2010

DOT Status: AC*

NTSB Status: CUA (February 1, 2011)

Implementation Description: The FAA conducted a review of all available physical evidence from Boeing and in-flight data from the two incidents. Aircraft stability and control, fuel efficiency, and the effect of parts departing the aircraft were all evaluated in the analysis. On August 5, 2009, Boeing published SB 757-57-0027-03 to clarify proper clip installation and to notify owners and operators of the two panel departure events.

The FAA is not adopting the recommendation as written because as stated in its response to SR A-08-22, departure of the fixed trailing edge panel does not result in an unsafe condition, and the issue does not meet the criteria for mandatory action. Therefore, the FAA does not intend to require repetitive inspections.

Previously Missed Deadline(s): N/A

A-09-21. Evaluate the history of uncommanded air turbine starter valve (ATSV)-Open events in the MD-80 fleet and the effectiveness of coupling the ATSV-Open light to the Master Caution system to determine whether all MD-80 airplanes need to be modified to couple the ATSV-Open light to the Master Caution system. Once the evaluation is completed, require any necessary modifications.

Completion Date: May 26, 2011

DOT Status: AC✓

NTSB Status: OAA (April 2, 2010)

Implementation Description: The FAA reviewed the extensive MD-80 service history, and concluded that past AD; McDonnell Douglas Model DC-9, DC-9-80, and C-9 (Military) Series Airplanes, and Model MD-88 Airplanes, successfully corrected design problems identified in early MD-80 ATSV-open events. The FAA determined that the two confirmed events since issuance of the AD were due to improper maintenance practices by the airline, and have since been corrected with no additional occurrences. The FAA is not adopting the recommendation as written because based on its review, the FAA considers that safe MD-80 operations will be maintained without adding further complexity to the master caution system leading to potential inadvertent consequences.

Previously Missed Deadline(s): N/A

A-09-28. Require Boeing to establish an appropriate replacement interval for air turbine starter valve air filters installed on all MD-80 series aircraft.

Completion Date: May 26, 2011

DOT Status: AC***NTSB Status:** OUA (April 2, 2010)

Implementation Description: The FAA reviewed the extensive MD-80 service history. The FAA's review confirmed that operators who perform the Boeing recommended maintenance for the ATSV air filter have not experienced in-service failures. The FAA is not adopting the recommendation as written because based on its review of MD-80 service history, the FAA determined it is not appropriate to pursue a mandatory replacement interval for the ATSV air filter.

Previously Missed Deadline(s): N/A

A-09-46. Require airplane manufacturers and modifiers to provide positive separation between electrical wiring and oxygen system tubing according to, at a minimum, the guidance in Advisory Circular (AC) 43.13-1A, "Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair," and AC 65-15, "Airframe and Powerplant Mechanics Airframe Handbook."

Completion Date: May 13, 2011**DOT Status:** AC✓**NTSB Status:** OAR (July 8, 2009)

Implementation Description: The FAA is not adopting the recommendation as written because it reviewed current FAA regulations and guidance and concluded that an additional regulation specifically requiring protection of oxygen equipment from electrical sources is not necessary. Existing FAA regulations and guidance already require separation and/or protection of oxygen from potential ignition sources, such as electrical equipment.

Issued on March 14, 2000, AC 25-22, Certification of Transport Airplane Mechanical Systems, contains a brief history of § 25.1441, which has been in effect since February 1965. AC 25-22 provides general guidance on this regulation and identifies that industry practice has been to separate and isolate the oxygen system from sources of ignition. Issued on September 25, 1987, AC 25-16, Electrical Fault and Fire Prevention and Protection, contains information on the importance of separating wiring from equipment whose subsequent failure caused by arcing could cause further damage. AC 25-16 specifically states, when referring to wiring installation clamps, that "the clamps should be a compression type and should be spaced so that, assuming a wire break, the broken wire will not contact hydraulic lines, oxygen lines, pneumatic lines, or other equipment whose subsequent failure caused by arcing could cause further damage." The FAA considers separation of oxygen equipment from potential ignition sources, such as electrical current, necessary for compliance to these regulations.

Previously Missed Deadline(s): N/A

A-09-47. Require airplane manufacturers and operators to ensure that oxygen system tubing in proximity to electrical wiring is made of, sleeved with, or coated with nonconductive material or that the tubing is otherwise physically isolated from potential electrical sources.

Completion Date: May 13, 2011

DOT Status: AC✓

NTSB Status: OAR (July 8, 2009)

Implementation Description: The FAA is not adopting this recommendation as written because it reviewed current FAA regulations and guidance and concluded that an additional regulation specifically requiring protection of oxygen equipment from electrical sources is not necessary. Existing FAA regulations and guidance already require separation and/or protection of oxygen from potential ignition sources, such as electrical equipment.

Issued on March 14, 2000, AC 25-22, Certification of Transport Airplane Mechanical Systems, contains a brief history of § 25.1441 which has been in effect since February 1965. AC 25-22 provides general guidance on this regulation and identifies that industry practice has been to separate and isolate the oxygen system from sources of ignition. Issued on September 25, 1987, AC 25-16, Electrical Fault and Fire Prevention and Protection, contains information on the importance of separating wiring from equipment whose subsequent failure caused by arcing could cause further damage. AC 25-16 specifically states, when referring to wiring installation clamps, that “the clamps should be a compression type and should be spaced so that, assuming a wire break, the broken wire will not contact hydraulic lines, oxygen lines, pneumatic lines, or other equipment whose subsequent failure caused by arcing could cause further damage.” The FAA considers separation of oxygen equipment from potential ignition sources, such as electrical current, necessary for compliance to these regulations.

Previously Missed Deadline(s): N/A

A-09-67. Require that operators of Boeing DC-9 series, MD-80 series, MD-90 series, and B-717 airplanes include items in their preflight checklists to verify that a check of the takeoff warning system is accomplished before every flight.

Completion Date: December 29, 2010

DOT Status: AC✓

NTSB Status: OAR (August 17, 2009)

Implementation Description: The FAA determined that the before-start checklists of the Boeing DC-9, MD-80 and MD-90 FCOM state that the flight crews are to verify function of the TOWS before every flight. In 2003, the FAA issued AC 120-71A, Standard Operating Procedures for Flight Deck Crewmembers, highlighting the key features of SOP. This AC is appropriate and sufficient to convey the content and importance of SOP. On November 5, 2008, the FAA issued SAFO 08021, Importance of Standard Operating Procedures (SOP) as Evidenced by a Take-off Configuration Hazard in Boeing DC-9 series, MD-80 series, MD-90, and B-717

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Airplanes. SAFO 08021 reminds operators and stresses the importance of the guidance in AC 120-71A.

The FAA is not adopting the recommendation as written because it believes appropriate information is already in the AFM and FCOM for this issue. Following the FCOM prior to takeoff is critical to safe operation. For the Spanair accident, a “taxi” checklist was used which did not include information regarding TOWS function, but included a check to verify proper flap and slat takeoff settings, which would have detected the configuration problem. The flight crew failed to complete the checklist.

Previously Missed Deadline(s): N/A

A-09-68. Modify 14 Code of Federal Regulations Part 25 to include a certification standard that will ensure either that 1) the takeoff warning system (TOWS) cannot be disabled by a single failure or 2) if the system fails or has power removed while the airplane is operating on the ground, a discrete and clear annunciation of the loss of TOWS protection is provided to flight crews.

Completion Date: December 29, 2010

DOT Status: AC✓

NTSB Status: OAR (August 17, 2009)

Implementation Description: The FAA evaluated the recommendation and applicable guidance. On March 17, 1993, the FAA issued AC 25.703-1, Takeoff Configuration Warning Systems, after certification of the MD-80 series aircraft involved in this accident. The FAA conducted a comprehensive review of takeoff configuration warning systems for large jet transports in the late 1980’s. Since the issuance of AC 25.703-1, there has been a clear trend to more robust and reliable TOWS designs that fully comply with the intent of this recommendation.

The FAA is not adopting the recommendation as written because a failure of the TOWS by itself does not constitute a condition which will prevent continued safe flight and landing. The FAA determined that under current FAA regulations and policy, a requirement that “no single failure can result in the loss of function” is normally reserved for the most critical functions whose loss is considered catastrophic. Therefore, the FAA does not agree that a “no single failure” requirement is warranted for the TOWS. The FAA believes current certification requirements are appropriate.

Previously Missed Deadline(s): N/A

A-10-63. Once the development of the engine technology has been completed, as asked for in Safety Recommendation A-10-62, require the implementation of the technology on transport-category airplane engines equipped with full-authority digital engine controls.

Completion Date: May 13, 2011

DOT Status: AC✓

NTSB Status: OAA (March 17, 2011)

Implementation Description: The FAA participated and sponsored research in technology capable of informing pilots about the continuing operational status of an engine. FAA-sponsored research, conducted between January 1989 and December 2008, focused on improved engine damage detection and annunciation through the use of existing sensors on a full-authority, digitally controlled engine.

The research team concluded that while there are potential benefits of real-time prediction of engine operational capability or restart capability, there are difficult challenges in developing a reliable and accurate health monitoring algorithm. In addition, it provides only modest and limited operational benefits (awareness and guidance) over existing systems. The research team also recommended that further collection of detailed data would be needed to develop an adequate algorithm. FAA programs to develop standard algorithms have garnered little interest from industry because industry considers their existing algorithms proprietary and are not likely to share them with the public and their competitors.

The FAA is not adopting the recommendation as written because development of the technology without proprietary algorithms would require a significant investment to fund numerous flight tests and data analysis. The FAA determined that the benefit of developing technology capable of informing pilots about the continuing operational status of an engine does not outweigh the high cost.

Previously Missed Deadline(s): N/A

A-10-79. Require, on all new and in-service transport-category airplanes, that cabin safety equipment be stowed in locations that ensure that life rafts and/or slide/rafts remain accessible and that sufficient capacity is available for all occupants after a ditching.

Completion Date: March 15, 2011

DOT Status: AC✓

NTSB Status: OAA (March 17, 2011)

Implementation Description: The FAA reviewed the accident with respect to the ditching regulations, and determined that the airplane impacted the water at a vertical descent rate outside the envelope of a ditching event. As a result, the airplane sustained more aft fuselage damage than was included in the ditching analysis.

The FAA is not adopting the recommendation as written because for this airplane, the aft exits are the best means of escape under most ditching scenarios, and so were designated as the ditching exits. The FAA requires that the location of the life rafts and/or slide/rafts must be near

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the ditching exits. The FAA does not intend to change the existing requirements. Service history shows those requirements support typical ditching scenarios.

Previously Missed Deadline(s): N/A

A-10-80. Require quick-release girts and handholds on all evacuation slides and ramp/slide combinations.

Completion Date: March 15, 2011

DOT Status: AC✓

NTSB Status: OAA (March 17, 2011)

Implementation Description: The FAA reviewed the installation of ramp/slides on current airplanes to determine whether adding the quick-release girts and handholds would increase safety. The FAA is not adopting the recommendation as written because the ramp/slide combinations are installed at overwing exits on the A320 and A380, Boeing 747, some Boeing 757, and some Boeing 767 airplanes. For these airplanes, the compartments where the ramp/slides are stowed are completely or partially below the waterline defined in the floatation analysis for the airplane. As a result, the ramp/slides are not considered usable after a ditching and in some cases there are crew procedures to disarm the ramp/slides before opening the exit to mitigate the potential hazard of deployment. Since ramp/slides are considered unusable during ditching, the FAA does not intend to require these units be equipped with quick-release girts and handholds.

Previously Missed Deadline(s): N/A

A-09-61. Modify the Application for Airman Medical Certificate to elicit specific information about any previous diagnosis of obstructive sleep apnea and about the presence of specific risk factors for that disorder.

Completion Date: June 2, 2011

DOT Status: AC✓

NTSB Status: OUA (June 8, 2010)

Implementation Description: The FAA again states that modification of the FAA Form 8500-8 is not the solution to increased detection of OSA in airman. Education of AMEs on the subject of sleep disorders in general, and OSA in particular, was first initiated at the AME Theme Seminar in Seattle, WA, from November 20-22, 2009. To date, 212 new AMEs have been trained on this subject at basic seminars, and 979 current AMEs have been trained on the subject at theme seminars, for a total of 1,191 AMEs. The total current number of FAA AMEs is 3,576. AAM is currently developing a process to more vigorously screen airmen for the presence of OSA, and the AME Guide will be modified at that time to stress the importance of detection and evaluation of airmen with possible OSA as well as the updated policy regarding screening and diagnosis.

The FAA believes that current policy is detecting OSA within the pilot population, and it is granting Special Issuance Medical Certification (SIMC) to those pilots who have been successfully treated. The number of current airmen with a SIMC for OSA is 2,041. The total number of current airmen that have the FAA Pathology Code for SA is approximately 2,792 (this number includes those with a SIMC).

Previously Missed Deadline(s): N/A

A-00-70. Adopt the landing clearance procedure recommended by International Civil Aviation Organization Document 4444-RAC/501, "Procedures for Air Navigation Services-Rules of the Air and Air Traffic Services," Part V, "Aerodrome Control Service," paragraph 15.2.

Completion Date: May 17, 2011

DOT Status: AC✓

NTSB Status: OUA (July 17, 2009)

Implementation Description: The Board did not endorse the alternatives described within the result of the FAA's Safety Risk Management analysis, specifically, restricting the number of aircraft cleared to land at one time, or restricting the distance from the landing threshold that a clearance may be given.

Extensive analysis was conducted by the MITRE Corporation in 2009 on Multiple Landing Clearance (MLC) "caps," i.e. restricting the distance from the landing threshold that a clearance may be given. The analysis concluded that "while MLC caps may offer some benefits, they may also introduce new risks (unintended consequences)."

Potential risks of MLC caps identified in the study were:

1. Higher workload;
2. Interrupted workflow; and
3. Increased number of frequency transmissions.

The analysis also stated that, "the MLC related runway incursion problem is a small portion of the overall incursion problem and the potential for benefit, even when including incursions due to forgetting, is likely small as well."

Therefore, the FAA concludes that the potential for increased risk outweighs the potential benefits of prohibiting multiple landing clearances to a specific runway.

Previously Missed Deadline(s): N/A

A-10-107. Modify Federal Aviation Administration Order 7110.65 to require air traffic controllers at airports with multiple sources of wind information to provide pilots with the maximum wind component, including gusts, that the flight could encounter.

Completion Date: May 17, 2011

DOT Status: AC✓

NTSB Status: ORR (October 14, 2010)

Implementation Description: Use of the term "gusts" in radio transmissions is already a requirement. The controller is responsible for broadcasting the current wind condition per JO 7110.65, Air Traffic Control, Paragraph 2-4-17g, Radio and Interphone Communications. Controllers are required to issue wind gusts as part of the wind broadcast if the gusts are detected at the time of the broadcast (e.g., "wind two seven zero at one five gusts three five").

Additionally, wind gusts are also included in the definition of wind per JO 7900.5, Paragraph 8-3, Surface Weather Observing. The weather observer is responsible for delivering the aviation weather observation report to the controllers. Once received, controllers are required to issue wind gusts as part of the wind broadcast if the gusts are reported on the METAR (routine report) or SPECI (special report).

Previously Missed Deadline(s): N/A

A-10-109. Require air traffic control towers to locally develop and implement written runway selection programs that proactively consider current and developing wind conditions and include clearly defined crosswind components, including wind gusts, when considering operational advantage with respect to runway selection.

Completion Date: May 17, 2011

DOT Status: AC✓

NTSB Status: ORR (October 14, 2010)

Implementation Description: JO 7110.65, Air Traffic Control, Paragraph 3-5-1, Selection, has specific direction that requires air traffic controllers to use the runway most nearly aligned with the wind.

Previously Missed Deadline(s): N/A

A-01-65. Amend 14 Code of Federal Regulations 139.319(j) to require a minimum Aircraft Rescue and Fire Fighting staffing level that would allow exterior firefighting and rapid entry into an airplane to perform interior firefighting and rescue of passengers and crewmembers.

Completion Date: May 13, 2011

DOT Status: AC✓

NTSB Status: OAA (October 17, 2002)

Implementation Description: Historically, the FAA viewed ARFF's primary purpose as "knocking down" an aircraft fire so that crew and passengers would have a safe escape route. The FAA has never required a specific minimum ARFF staffing level. The local fire jurisdiction responding from off the airport would augment ARFF personnel for rescue and medical triage. Two working groups that included industry specialists have researched this issue. They both reviewed air carrier passenger aircraft accidents to see if changes to ARFF staffing standards would have reduced the number of fatalities or serious injuries that resulted from past accidents. The first group could not make a conclusion. The second group made two conclusions. First, changing ARFF staffing standards would not have reduced fatalities or serious injuries in any of the accidents reviewed. Second, there is no conclusive evidence that accident fatalities or serious injuries would be reduced by replacing the current ARFF standards with those found in either ICAO Annex 14 or the National Fire Protection Association 403 and its associated documents.

Previously Missed Deadline(s): N/A

Undetermined

Aviation Safety: Flight Standards Service

Aviation Safety: Aircraft Certification Service

Aviation Safety: Office of Aerospace Medicine

Air Traffic Organization

A-07-64. Demonstrate the technical and operational feasibility of outfitting transport-category airplanes with equipment and procedures required to routinely calculate, record, and convey the airplane braking ability required and/or available to slow or stop the airplane during the landing roll. If feasible, require operators of transport-category airplanes to incorporate use of such equipment and related procedures into their operations.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Proposed Completion Date: This project is in the very early stages of determining feasibility. Therefore, the FAA cannot propose a completion date at this time.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA initiated a research project to study the feasibility of a system to implement, in principle, the safety improvements identified in this recommendation. Industry R&D projects that are related to the core elements of this recommendation are also being monitored. If these studies indicate feasibility, a substantial amount of R&D would be necessary.

Previously Missed Deadline(s): N/A

A-10-10. Require 14 Code of Federal Regulations Part 121, 135, and 91K operators to review their standard operating procedures to verify that they are consistent with the flight crew monitoring techniques described in Advisory Circular (AC) 120-71A, "Standard Operating Procedures for Flight Deck Crewmembers"; if the procedures are found not to be consistent, revise the procedures according to the AC guidance to promote effective monitoring.

Position Determination: The FAA has not yet determined how it will address this recommendation and therefore has not established a position.

Proposed Completion Date: The FAA will determine a proposed completion date once a plan of action has been established.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA is considering this recommendation and will determine the best feasible course of action to meet its intent. This consideration may include policy and regulatory options such as revising guidance material to POIs, issuing an InFO and SAFO, or any combination of these and other programs.

Previously Missed Deadline(s): N/A

A-10-23. Require all 14 Code of Federal Regulations Part 121, 135, and 91K operators of stick pusher-equipped aircraft to provide their pilots with pusher familiarization simulator training. (Supersedes Safety Recommendation A-07-4)

Position Determination: Once the FAA has the SPAW ARC report, it will consider the recommendations regarding stick-pusher training and determine an appropriate course of action.

Proposed Completion Date: Once the FAA has the SPAW ARC report, it will consider the recommendations regarding stick-pusher training and determine an appropriate course of action. At that time, a proposed completion date can be determined

DOT Status: AIP

NTSB Status: OAA

Implementation Description: In March 2010, the FAA participated in the Industry Stall and Stick Pusher WG to explore and develop options relative to stall and stick pusher training, testing, and checking. The following are products of this work group:

- SAFO 10012, Possible Misinterpretation of the Practical Test Standards (PTS) Language “Minimal Loss of Altitude;”
- Stall training AC, currently in FAA coordination;
- Revisions to the ATP and Type Rating Practical Test Standards; internal coordination of the change began in May 2011; and
- Issue a notice to inspectors; internal coordination began in June 2011.

The FAA chartered the SPAW ARC in September 2010. The SPAW ARC developed recommendations to identify the best procedures and training practices that will enable air carrier pilots to accurately and consistently respond to unexpected stick pusher activations, icing conditions, and microburst and windshear events. The final recommendations were provided to the FAA in July 2011. The FAA will then take the SPAW ARC recommendations and provide a report to Congress and the Board by November 30, 2011, as mandated by P.L. 111-216.

Previously Missed Deadline(s): N/A

A-10-67. Once the development of the checklist and procedure for a dual-engine failure occurring at a low altitude has been completed, as asked for in Safety Recommendation A-10-66, require 14 Code of Federal Regulations Part 121, Part 135, and Part 91 Subpart K operators of turbine-powered aircraft to implement the checklist and procedure.

Position Determination: The FAA will determine its position once a decision has been made regarding the development of a dual-engine failure at low altitude checklist and procedure.

Flight Standards Service

Proposed Completion Date: The FAA will determine a proposed completion date once a decision has been made regarding the development of a dual-engine failure at low altitude checklist and procedure.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA is reviewing the existing requirements for a checklist and procedure for a dual-engine failure, and investigating the feasibility of requiring a specific checklist for a dual-engine failure occurring at a low altitude. Should a dual-engine failure at low altitude checklist procedure be developed for turbine-powered aircraft, the FAA will consider the policy guidance options available to implement a global checklist change to include it.

Previously Missed Deadline(s): N/A

A-10-68. Develop and validate comprehensive guidelines for emergency and abnormal checklist design and development. The guidelines should consider the order of critical items in the checklist (for example, starting the auxiliary power unit), the use of opt outs or gates to minimize the risk of flight crewmembers becoming stuck in an inappropriate checklist or portion of a checklist, the length of the checklist, the level of detail in the checklist, the time needed to complete the checklist, and the mental workload of the flight crew.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Proposed Completion Date: The FAA will determine a proposed completion date once a review of the available guidance is completed.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The contents and design of emergency and abnormal checklists are a combined effort between the aircraft manufacturers and operators. The FAA does not validate, but rather accepts or approves operators' checklists and procedures. The FAA inspectors accomplish this based on the guidance provided in FSIMS. The general guidance contained in this order recommends that the checklists use standardized terminology, follow a logical sequence, and incorporate an appropriate level of detail based on the user. With a more detailed review of the guidance available to operators and inspectors, the FAA will consider revising and/or issuing new guidance on checklist design, specifically for emergency and abnormal procedures.

Previously Missed Deadline(s): N/A

A-10-69. Require 14 Code of Federal Regulations Part 121, Part 135, and Part 91 Subpart K operators to include a dual-engine failure scenario occurring at a low altitude in initial and recurrent ground and simulator training designed to improve pilots critical-thinking, task-shedding, decision-making, and workload-management skills.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Proposed Completion Date: The FAA will determine a proposed completion date once a determination has been made regarding the development of a specific checklist.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA will review the existing regulations and policy for a checklist procedure for a dual-engine failure and investigate the feasibility of requiring OEMs to develop a specific checklist for a dual-engine failure occurring at a low altitude. Should a checklist procedure be developed for turbine powered aircraft, the FAA will consider the policy guidance options available to implement a global checklist change to include it. In addition, the FAA will review training programs for part 121, 135, and 91K operators, and consider including a dual-engine failure scenario occurring at a low altitude in initial and recurrent training.

Previously Missed Deadline(s): N/A

A-10-70. Require 14 Code of Federal Regulations Part 121, Part 135, and Part 91 Subpart K operators to provide training and guidance to pilots that inform them about the visual illusions that can occur when landing on water and that include approach and touchdown techniques to use during a ditching, with and without engine power.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Proposed Completion Date: A proposed completion date will be determined following consideration of the recommendation's feasibility.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: To address this recommendation, the FAA will review information currently available on visual illusions for landing on water. The FAA will also review part 121, 135, and 91K operators' training programs to assess the training and guidance currently being provided to pilots on visual illusions for landing on water and determine if that includes approach and touchdown techniques to use during a ditching, with and without engine power. Based on those findings, the FAA will evaluate all of its options in the training environment to ensure pilots are provided with the recommended training and guidance.

Previously Missed Deadline(s): N/A

A-10-71. Work with the aviation industry to determine whether recommended practices and procedures need to be developed for pilots regarding forced landings without power both on water and land.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Proposed Completion Date: The FAA will determine a proposed completion date once the review of current information is complete.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: A pilot, when learning to fly, is taught and tested on procedures and decision making skills for a forced landing. This is a skill that is continuously developed throughout flight training. The practices and procedures taught, however, are not necessarily a one-size-fits-all action and vary with the type of aircraft and/or operation. The information provided to pilots may not be all-inclusive of practices and procedures regarding forced landings without power both on water and land. To address this recommendation, the FAA will review information currently available to pilots as well as what practices and procedures are being provided to pilots of part 121, 135, and 91K operators on forced landings without power, both on water and land. Based on the findings, the FAA will determine what additional action, if any, is necessary.

Previously Missed Deadline(s): N/A

A-10-73. Require Airbus operators to amend the ditching portion of the Engine Dual Failure checklist and any other applicable checklists to include a step to select the ground proximity warning system and terrain alerts to OFF during the final descent.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Proposed Completion Date: A proposed completion date will be determined following consideration of the recommendation's feasibility.

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA continues to work with the EASA and Airbus to evaluate the placement of the suggested steps on the ditching portion of the Engine Dual Failure checklist. Airbus A318, A319, A320, and A321 flight manual emergency procedures for

Flight Standards Service

ditching and forced landing already include a step to select ground proximity warning system and terrain alert OFF.

Previously Missed Deadline(s): N/A

A-10-110. Gather data on surface winds at a sample of major U.S. airports (including Denver International Airport) when high wind conditions and significant gusts are present and use these data to develop realistic, gusty crosswind profiles for use in pilot simulator training programs.

A-10-111. Require 14 Code of Federal Regulations Part 121, 135, and 91 K operators to incorporate the realistic, gusty crosswind profiles developed as a result of Safety Recommendation A-10-110 into their pilot simulator training programs.

Position Determination: The FAA needs to determine the feasibility of using actual wind data for the development of wind profiles that include gusts, prior to establishing its position on this recommendation.

Proposed Completion Date: The FAA cannot propose a completion date until the scope of its actions are determined.

DOT Status: AIP

NTSB Status: ORR

Implementation Description: Current simulators do allow for training profiles that include wind gusts if the wind data are available and the simulator software is programmed for it. However, there is no regulatory requirement for implementation of such profiles as a minimum condition for simulator qualification.

The FAA will work with industry to determine how sample wind data could be collected and the feasibility of using that data for the development of wind profiles that include gusts. The FAA also needs to evaluate if realistic, gusty crosswind profiles, as described in this recommendation, are necessary to adequately conduct required training objectives prior to taking any further action.

Previously Missed Deadline(s): N/A

Aircraft Certification Service

A-09-49. Once electrical grounding requirements for oxygen system components are developed, as requested in Safety Recommendation A-09-48, require airplane operators and modifiers to inspect their airplanes for compliance with these criteria and modify those airplanes not in compliance accordingly.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Proposed Completion Date: A proposed completion date will be determined following consideration of the recommendation's feasibility.

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA assessed the issue and determined there is no immediate safety concern with the in-service fleet. Aircraft with configurations similar to the accident airplane, modified in accordance with STC ST01433SE, have been inspected and necessary corrective actions have been taken. The FAA is continuing to assess the underlying safety issue related to this recommendation. Following completion of the FAA's assessment, an appropriate course of action will be determined.

Previously Missed Deadline(s): The FAA advised that a follow on response to this recommendation would be provided by May 2010. The response was delayed due to higher priority workload related to SR A-09-43 and rulemaking for ice protection.

A-09-51. Once inspection criteria or service life limits for flexible oxygen hoses have been developed, as requested in Safety Recommendation A-09-50, require airplane operators to replace those hoses that do not meet the inspection criteria or that exceed the service life limits.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Proposed Completion Date: A proposed completion date will be determined following consideration of the recommendation's feasibility.

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA assessed the issue and determined there is no immediate safety concern with the in-service fleet. Aircraft with configurations similar to the accident airplane, modified in accordance with STC ST01433SE, have been inspected and necessary corrective actions have been taken. The FAA is continuing to assess the underlying safety issue related to this recommendation. Following completion of the FAA's assessment, an appropriate course of action will be determined.

Previously Missed Deadline(s): N/A

Aircraft Certification Service

A-10-66. Require manufacturers of turbine-powered aircraft to develop a checklist and procedure for a dual-engine failure occurring at a low altitude.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Next Major Milestone Date: December 31, 2012

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA is reviewing transport-category AFM emergency procedures to determine how dual-engine failures that occur at low altitude are specifically addressed for a variety of aircraft. The results of this review will allow us to determine if there is a need for additional procedures to guide flight crews in handling dual-engine failures occurring at a low altitude. The FAA anticipates completing its review and determining the appropriate course of action by December 2012.

Previously Missed Deadline(s): N/A

A-10-112. Once realistic, gusty crosswind profiles as asked for in Safety Recommendation A-10-110 are developed, develop a standard methodology, including pilot-in-the-loop testing, for transport-category airplane manufacturers to establish empirically based, type-specific maximum-gusting-crosswind limitations for transport-category airplanes that account for wind gusts.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Next Major Milestone Date: December 31, 2012

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA is collecting airline crosswind policy information to determine how the airlines implement the limitations stated in the AFM. The FAA expects to have initial inputs by December 2011. If methodology improvements are justified, the FAA expects to begin discussions with industry by December 2011 and complete discussions by December 2012.

Previously Missed Deadline(s): N/A

Aircraft Certification Service

A-10-113. Once a methodology as asked for in Safety Recommendation A-10-112 has been developed, require manufacturers of transport-category airplanes to develop type-specific, maximum-crosswind takeoff limitations that account for wind gusts.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Next Major Milestone Date: December 31, 2012

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA is collecting airline crosswind policy information and expects to have initial inputs by December 2011. If methodology improvements are justified, the FAA expects to begin discussions with industry by December 2011 and complete discussions by December 2012.

Previously Missed Deadline(s): N/A

A-10-114. Until the actions described in Safety Recommendation A-10-113 are accomplished, require manufacturers of transport-category airplanes to provide operators with interim crosswind takeoff guidelines that account for wind gusts.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Next Major Milestone Date: December 31, 2012

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA is in the process of collecting airline crosswind policy information and expects to have initial inputs by December 2011. If, as a result of this information collection, additional actions are justified, the FAA expects to begin to implement those actions by December 2011 and complete them by December 2012.

Previously Missed Deadline(s): N/A

A-10-116. Require cockpit crew seats installed in newly manufactured airplanes that were type certificated before 1988 to meet the crashworthiness standards contained in 14 Code of Federal Regulations 25.562.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Aircraft Certification Service

Proposed Completion Date: A proposed completion date will be determined following consideration of the recommendation's feasibility.

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA is evaluating the Board's investigation of the flight deck seat failure in the subject accident and reviewing the decision to exclude flight deck seats from the Improved Seats in Air Carrier Transport Category Airplanes Final Rule, which became effective October 27, 2005. The FAA's preliminary analysis is described below:

SR A-10-116 recommends that the FAA pursue rulemaking to require improvements to flight deck seats for all newly manufactured airplanes. The FAA estimates that this proposed rule change, if implemented, would become effective no earlier than 2016. By that time, attrition in production of older airplanes may effectively address the recommendation, since the § 25.562 rule is already required as part of the certification basis for many airplanes currently in production and scheduled for future production. The proposed rulemaking would not address retrofit of existing airplanes similar to the accident airplane in Continental Airlines Flight 1404. Desired safety improvements may be achieved through a means other than rulemaking for newly manufactured aircraft.

SR A-10-116 was accompanied by the following description of Continental Airlines Flight 1404 post-crash analysis and discussion of related accidents involving flight deck seats:

Both pilot seats in the accident airplane failed during the accident sequence. Post accident examination of the seats revealed that both seats' crotch-restraining-strap attachment points were fractured in an upward direction and that both seat height adjustment mechanisms had failed in a downward direction, "bottoming out" during the impact sequence. These failures indicate that the pilots' seats experienced both upward and downward crash forces in excess of their structural capabilities. Both pilots complained of back injuries after the accident, and medical records indicated that the captain sustained multiple lumbar and thoracic spinal fractures.

....

Investigators noted another instance in which the pilot received more serious injuries than other airplane occupants. The captain of the May 9, 2004, American Eagle flight 5401, an Avions de Transport Regional 72-212, which crashed during landing at Luis Munoz International Airport, San Juan, Puerto Rico, had a fractured L-2 vertebra, whereas all other occupants received minor injuries. The American Eagle Flight 5401 captain's seat was certified to the same static test requirements as the cockpit seats in the Continental accident airplane.

The Board recommends adoption of the § 25.562 rule, which includes criteria for tension loads from upper torso straps, criteria for compressive loads between the pelvis and lumbar column, head injury criteria, femur loading criteria, and seat attachment and deformation criteria. The Board's discussion identifies injuries primarily associated with compressive loads between the pelvis and lumbar column. Desired safety improvements may be achieved through a means

Aircraft Certification Service

other than mandating the full scope of the § 25.562 rule. The FAA is continuing its analysis relative to this recommendation.

Previously Missed Deadline(s): N/A

A-10-118. Require that operators of transport-category airplanes that use galley latches or latch plates secured solely by adhesives that may degrade over time modify the latches to include mechanical fasteners.

Position Determination: The FAA is considering this recommendation and determining the feasibility of its implementation.

Next Major Milestone Date: December 31, 2012

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA is reviewing the design, process specifications, and testing used to manufacture and certify this galley to establish a root cause for the failure and develop an appropriate course of action.

Previously Missed Deadline(s): N/A

A-03-36. Modify the list of safety-sensitive functions described in 14 Code of Federal Regulations Part 121, Appendixes I and J, to include all personnel with direct access to the airplane and a direct role in the handling of the flight, including cargo handlers, load planners, and ramp supervisors.

Proposed Completion Date: May 23, 2014

DOT Status: AIP

NTSB Status: OAA

Implementation Description: The FAA is considering the new safety-sensitive functions recommended by the Board in a rewrite of the FAA's drug and alcohol testing regulation, which is now located in part 120.

In May 2011, an application for rulemaking was approved by the agency rulemaking management council and the team is currently developing a rulemaking action plan. The rulemaking action plan is expected to be presented to the rulemaking management council later this year and will include the proposed timeline for the rulemaking action.

Previously Missed Deadline(s): The FAA's initial response to the Board committed the agency to implement this recommendation within three years. However, other rulemaking priorities, most recently the P.L. 111-216 priority projects and a lack of resources and data, delayed the FAA from adding the new safety-sensitive job categories suggested by this recommendation.

2003 – 2009: The FAA's response to the Board committed the agency to implement this recommendation within three years. The FAA met with industry associations to seek data and recommendations before going forward with the project. The industry associations objected to the new safety-sensitive functions and did not provide the data the FAA requested. Given the lack of data and the industry reluctance to provide data, the FAA is considering if an advanced notice of proposed rulemaking or an NPRM should be the next action.

A-10-108. Review the required documentation for all low-level windshear alert system (LLWAS)-equipped air traffic control towers to ensure that a letter to airmen has been published and is easily accessible describing the location and designation of the remote sensors, the capabilities and limitations of the system, and the availability of current LLWAS remote sensor wind information on the request of a pilot, in compliance with Federal Aviation Administration Order 7210.3.

Position Determination: The FAA is still gathering information for this response. Until it is finished, an accurate position cannot be formed.

Proposed Completion Date: The FAA is still gathering information for this response. Until it is finished, an accurate completion date cannot be formed.

DOT Status: AIP

NTSB Status: ORR

Implementation Description: The FAA is in the process of developing a response to this recommendation.

Previously Missed Deadline(s): N/A

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 ■ Partially Adopt
 ■ Not Adopted

■ Undetermined

■ Actions in Progress

■ Actions Complete

■ Actions Complete (Reconsidered)

A-93-046	AIP	AFS	A-01-085	AC	AFS	A-04-057	AIP	AIR
A-94-056	AIP	AFS	A-01-086	AC*	AIR	A-04-058	AIP	AIR
A-94-107	AIP	AFS	A-02-001	AC	AFS	A-04-060	AIP	AIR
A-94-199	AIP	AFS	A-02-002	AC	AFS	A-04-062	AIP	AFS
A-95-113	AIP	AFS	A-02-040	AC	AFS	A-05-001	AC	AFS
A-96-056	AIP	AIR	A-02-043	AC*	AFS	A-05-002	AIP	AFS
A-96-095	AIP	AFS	A-02-050	AIP	AIR	A-05-003	AC*	AIR
A-96-120	AIP	AFS	A-02-051	AIP	AIR	A-05-004	AC*	AIR
A-97-071	AC*	AFS	A-03-005	AC	AAS	A-05-014	AIP	AFS
A-98-044	AIP	AFS	A-03-011	AIP	AAS	A-05-015	AC*	AFS
A-98-047	AC*	AFS	A-03-012	AIP	AAS	A-05-016	AC	AFS
A-98-082	AC*	ATO	A-03-015	AC	AIR	A-05-030	AC	AFS
A-98-089	AIP	AFS	A-03-016	AC*	AFS	A-05-031	AC*	AIR
A-98-102	AIP	AFS	A-03-030	AC*	AFS	A-05-032	AC*	AIR
A-99-022	AIP	AIR	A-03-032	AC	AFS	A-06-008	AIP	AFS
A-99-023	AIP	AIR	A-03-036	AIP	AAM	A-06-009	AIP	AFS
A-00-030	AC*	AIR	A-03-041	AIP	AIR	A-06-010	AIP	AFS
A-00-031	AC*	AIR	A-03-042	AIP	AIR	A-06-033	AC*	AIR
A-00-035	AC	ATO	A-03-043	AC	AFS	A-06-034	AC	AIR
A-00-066	AIP	ATO	A-03-044	AIP	AIR	A-06-036	AIP	AIR
A-00-067	AIP	ATO	A-03-050	AC*	AIR	A-06-037	AIP	AIR
A-00-070	AC	ATO	A-04-007	AIP	AIR	A-06-038	AIP	AIR
A-00-071	AC	ATO	A-04-008	AC*	AFS	A-06-042	AC*	AFS
A-00-091	AIP	AIR	A-04-009	AC	AFS	A-06-049	AIP	AIR
A-00-102	AIP	AIR	A-04-010	AC	AFS	A-06-051	AC*	AFS
A-00-103	AIP	AIR	A-04-011	AIP	AFS	A-06-073	AIP	AIR
A-00-109	AIP	AFS	A-04-013	AC*	AFS	A-06-074	AIP	AIR
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A-01-036	AC	ATO	A-04-016	AIP	AFS	A-07-001	AIP	AFS
A-01-040	AC	ATO	A-04-018	AIP	AFS	A-07-002	AIP	AFS
A-01-056	AIP	ATO	A-04-019	AIP	AFS	A-07-003	AIP	AFS
A-01-065	AC	AAS	A-04-035	AC*	AIR	A-07-006	AIP	AFS
A-01-066	AC*	AAS	A-04-044	AIP	AIR	A-07-007	AC	AFS
A-01-067	AC	AAS	A-04-046	AC	AAM	A-07-009	AIP	AFS
A-01-068	AIP	ATO	A-04-047	AIP	AAM	A-07-010	AIP	AFS
A-01-069	AC*	AFS	A-04-056	AIP	AIR	A-07-030	AIP	ATO

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 ■ Partially Adopt
 ■ Not Adopted
 ■ Undetermined
■ Actions in Progress
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■ Actions Complete (Reconsidered)

A-07-034	AIP	ATO	A-08-045	AC	AFS	A-09-071	AIP	AFS
A-07-037	AC*	AFS	A-08-079	AC	AFS	A-09-075	AIP	AAS
A-07-044	AIP	AFS	A-08-080	AC	AFS	A-09-112	AIP	ATO
A-07-045	AIP	AFS	A-08-081	AC	AFS	A-09-119	AIP	AIR
A-07-046	AC*	AAS	A-08-082	AC	AFS	A-09-120	AIP	AFS
A-07-048	AIP	ATO	A-09-009	AC	AIR	A-10-010	AIP	AFS
A-07-050	AIP	AIR	A-09-010	AC	AIR	A-10-011	AIP	AIR
A-07-055	AIP	AIR	A-09-011	AC	AIR	A-10-012	AIP	AIR
A-07-056	AIP	AIR	A-09-021	AC	AIR	A-10-013	AIP	AFS
A-07-057	AIP	AFS	A-09-022	AIP	AFS	A-10-014	AIP	AFS
A-07-058	AIP	AFS	A-09-023	AIP	AFS	A-10-015	AIP	AFS
A-07-059	AIP	AFS	A-09-024	AIP	AFS	A-10-016	AIP	AFS
A-07-060	AIP	AFS	A-09-025	AIP	AFS	A-10-017	AIP	AFS
A-07-061	AIP	AFS	A-09-026	AIP	AFS	A-10-018	AIP	AFS
A-07-062	AIP	AAS	A-09-027	AIP	AFS	A-10-019	AIP	AFS
A-07-063	AIP	AFS	A-09-028	AC*	AIR	A-10-020	AIP	AFS
A-07-064	AIP	AFS	A-09-041	AC	AIR	A-10-021	AC	AFS
A-07-096	AIP	AFS	A-09-042	AIP	AFS	A-10-022	AIP	AFS
A-07-099	AC*	AIR	A-09-043	AC	AIR	A-10-023	AIP	AFS
A-07-101	AC	AAS	A-09-045	AC	AIR	A-10-024	AIP	AFS
A-07-102	AC*	AIR	A-09-046	AC	AIR	A-10-025	AIP	AFS
A-07-103	AC	AIR	A-09-047	AC	AIR	A-10-026	AIP	AFS
A-07-115	AIP	AIR	A-09-049	AIP	AIR	A-10-027	AIP	AFS
A-07-116	AIP	AIR	A-09-051	AIP	AIR	A-10-028	AIP	AFS
A-08-001	AIP	ASH	A-09-052	AC	AIR	A-10-029	AIP	AFS
A-08-002	AIP	ASH	A-09-053	AIP	AIR	A-10-030	AC*	AFS
A-08-016	AIP	AFS	A-09-061	AC	AAM	A-10-031	AIP	AFS
A-08-017	AIP	AFS	A-09-062	AIP	AAM	A-10-032	AIP	AFS
A-08-018	AIP	AFS	A-09-063	AC	AAM	A-10-033	AIP	AFS
A-08-019	AIP	AFS	A-09-064	AIP	AAM	A-10-034	AIP	AFS
A-08-020	AIP	AFS	A-09-065	AC	AFS	A-10-042	AC	ATO
A-08-022	AC*	AIR	A-09-066	AIP	AFS	A-10-043	AIP	ATO
A-08-023	AC*	AIR	A-09-067	AC	AIR	A-10-046	AC	AFS
A-08-040	AIP	AFS	A-09-068	AC	AIR	A-10-047	AC	AFS
A-08-041	AIP	AFS	A-09-069	AIP	AIR	A-10-063	AC	AIR
A-08-043	AIP	AAS	A-09-070	AIP	AFS	A-10-066	AIP	AIR

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■ Actions in Progress
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A-10-068	AIP	AFS	A-10-116	AIP	AIR
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A-10-070	AIP	AFS	A-10-118	AIP	AIR
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A-10-072	AIP	AIR			
A-10-073	AIP	AFS			
A-10-074	AIP	AFS			
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